

Exhibit 4

**IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF CALIFORNIA, SACRAMENTO DIVISION**

TAYLOR SMART AND
MICHAEL HACKER, *et al.*,
Plaintiffs,

v.

NATIONAL COLLEGIATE
ATHLETIC ASSOCIATION,
Defendants.

Case No. 2:22-cv-02125-WBS-CSK

SHANNON RAY, *et al.*,
Plaintiffs,

v.

NATIONAL COLLEGIATE
ATHLETIC ASSOCIATION,
Defendants.

Case No. 1:23-cv-00425-WBS-CSK

Expert Report of Jee-Yeon K. Lehmann, Ph.D.

December 20, 2024

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I. INTRODUCTION

A. Qualifications and Professional Experience

1. I am a Managing Principal with Analysis Group, Inc. (“Analysis Group”), an economic research and consulting firm. I have over 15 years of experience as a professional economist. I received my B.A. in Economics *summa cum laude* from Yale University in 2002, where I was elected to Phi Beta Kappa and awarded the Triffin Prize for outstanding academic record in the social sciences. I received my M.A. in Political Economy and Ph.D. in Economics from Boston University in 2009 and 2012, respectively, where I specialized in labor economics and industrial organization. Prior to joining Analysis Group in 2014, I was an Assistant Professor of Economics at the University of Houston, where I taught undergraduate and doctoral courses on topics in the fields of labor economics and applied microeconomics.
2. My research has been published in peer-reviewed journals, including *Journal of Economic Literature*, the *Journal of Human Resources*, and *Labour Economics*, and I have presented my research at leading economics conferences, including the annual meetings of the American Economic Association and the Society of Labor Economists. I have also authored articles on a range of competition issues, including those focused on labor market competition, and have presented on topics related to class certification, damages, and statistical methods in industry conferences in and outside the United States.
3. In my current role at Analysis Group, I specialize in applying microeconomics and statistical and econometric methods to complex litigation matters, regulatory investigations, and consulting projects. I have provided economic and statistical analysis on behalf of the United States Department of Justice, the Commonwealth of Massachusetts, organizations, and firms in a wide range of industries, including education, pharmaceuticals, medical devices, healthcare, technology, transportation, financial services, chemicals, consumer products, and manufacturing. I have served as an expert witness, submitted expert reports, and testified at depositions and trial in state and federal courts.

4. A true and correct copy of my curriculum vitae, which includes a full list of my publications, is attached as **Appendix A**. A list of expert testimony that I have provided in the past four years is attached as **Appendix B**.

B. Materials Relied Upon

5. A list of materials and other information that I have relied upon in executing this assignment is provided in **Appendix C**. This report and the opinions expressed herein are based on my training, professional experience, and analysis of the materials listed in **Appendix C**, and they reflect my current understanding of these materials. I may supplement, refine, or revise my report if new information relevant to my opinions is produced in this case.
6. For all data analyses, I rely on the data provided by Plaintiffs' experts—including revenue, expenditure, and coach count data from the NCAA's Membership Financial Reporting System ("MFRS"), and coach-level employment and compensation data provided by a subset of NCAA Division I schools in response to the subpoenas issued in this case—except where noted otherwise. I also rely on codes used in Plaintiffs' experts' analyses of these datasets.
7. Analysis Group is being compensated for my time at the rate of \$970 per hour. Part of the work related to this report has been undertaken by other economists at Analysis Group under my supervision and direction. Neither Analysis Group's nor my compensation is contingent on the nature of my findings or the outcome of this litigation.

II. ALLEGATIONS AND ASSIGNMENT

A. Parties

8. Named Plaintiffs in the *Colon* Complaint seek to represent a proposed Class of "[a]ll persons who, from March 17, 2019, to June 30, 2023, worked for a National Collegiate Athletic Association ("NCAA") Division I sport program other than Baseball in the position of

‘volunteer coach,’ as designated by NCAA Bylaws”¹ (the *Colon* proposed Class). The Named Plaintiffs in the *Colon* Complaint (the “*Colon* Plaintiffs”) are:

- Shannon Ray, a volunteer combined Track and Field coach from 2019 through 2020 at Arizona State University;²
- Khala Taylor, a volunteer Women’s Softball coach at San Jose State University from 2022 to 2023;³
- Peter Robinson, a volunteer Men’s and Women’s swimming coach at the University of Virginia from 2019 to 2021;⁴
- Katherine Sebbane, a volunteer Women’s Softball coach at the University of Pittsburgh from 2019 to 2021; and
- Rudy Barajas, a volunteer Women’s Volleyball coach at California State University, Fresno (“Fresno State”) from 2018 to 2023.⁵

9. Named Plaintiffs in the *Smart* Complaint seek to represent a proposed Class of “[a]ll persons who worked as a ‘volunteer coach’ in college baseball at an NCAA Division I school” “from

¹ Second Amended Class Action Complaint, *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, October 29, 2024 (“*Colon* Complaint”), ¶ 19. While I reference this second amended complaint that does not list Joseph Colon as a named plaintiff, I continue to refer to it as the *Colon* Complaint for consistency with the docket.

² Deposition of Shannon Ray, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK; and *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, October 15, 2024 (“*Ray* Deposition”), 99:5-8 (“Q. So you were not a volunteer coach for Arizona State during 2021? A. Not during the 2021 season. Q. At any point in 2021 were you a volunteer coach for Arizona State? A. No. Q. So you were a volunteer coach for Arizona State from January 2019 until sometime the end of 2020? A. December 2020, yes.”).

³ Deposition of Khala Taylor, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK; and *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, October 23, 2024 (“*Taylor* Deposition”), 175:2-6 (“Q. So when did your volunteer role at San Jose State come to an end? A. After NISC. Q. So that would be in May of 2023 or so? A. Yes.”).

⁴ Deposition of Peter Robinson, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK; and *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, October 17, 2024 (“*Robinson* Deposition”), 56:16-18 (“Q. Did you coach both men’s and women’s swimming? A. Yes.”), 88:18-20 (“Q. [...] Were there also diving coaches? A. Mr. Livingston.”). The University of Virginia has a Men’s and Women’s Swimming and Diving program. See, e.g., University of Virginia, “Men’s and Women’s Swimming and Diving at the Tennessee Invitational,” November 19, 2024, [available at virginiasports.com/news/2024/11/19/tennessee-invite/](https://virginiasports.com/news/2024/11/19/tennessee-invite/).

⁵ *Colon* Complaint, ¶¶ 7-11.

November 2018 to July 1, 2023”⁶ (the *Smart* proposed Class). The Named Plaintiffs in the *Smart* Complaint (the “*Smart* Plaintiffs”) are:

- Taylor Smart, a volunteer Baseball coach at the University of Arkansas from 2018 to 2020; and
- Michael Hacker, a volunteer Baseball coach at the University of California, Davis from 2019 to 2021.⁷

10. In this report, I use the term “proposed Class” to refer to either the *Colon* proposed Class or the *Smart* proposed Class individually and do not intend to group the two proposed Classes together.
11. I use the term “proposed Class period” to refer to the period between March 17, 2019 and June 30, 2023 for the *Colon* proposed Class, and to the period between November 29, 2018 and June 30, 2023 for the *Smart* proposed Class.⁸
12. Defendant NCAA is an organization of approximately 1,100 colleges and universities across the United States and Canada. NCAA employees “oversee all championships, manage programs that benefit student-athletes, and support member committees that make rules and policies for college sports.”⁹

B. Allegations

13. The *Colon* Plaintiffs allege that the NCAA and its Division I member schools have “engaged in an illegal wage-fixing conspiracy” by agreeing “to allow the member schools (except in Football and Basketball) to hire one or more additional coaches (depending on the sport)”

⁶ Class Action Complaint, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK, November 29, 2022 (“*Smart* Complaint”), ¶ 17; Notice of Motion and Motion for Class Certification, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK, November 1, 2024 (“*Smart* Motion for Class Certification”), p. ii.

⁷ *Smart* Complaint, ¶¶ 6-7.

⁸ I understand from counsel that the proposed Class period for *Smart* starts on November 29, 2018, as it is the last date within the four-year antitrust statute of limitation.

⁹ NCAA, “Overview,” *available at* www.ncaa.org/sports/2021/2/16/overview.aspx.

and “to cap the compensation that schools may provide these additional coaches [...] at \$0”¹⁰ (the “challenged bylaw”).

14. The *Smart* Plaintiffs allege that Defendant and its member schools have “engaged in an illegal buyer’s-side monopsony by conspiring to fix the compensation of an entire category of college baseball coaches at zero” through a bylaw “to allow the member schools to hire an additional baseball coach [who] cannot be paid.”¹¹

C. Assignment

15. I have been asked by counsel for the NCAA to assess:
 - i. whether a single method or body of evidence exists to determine whether each member of the proposed Class was injured by the challenged bylaw, that is consistent with sound economics; and
 - ii. whether a single method or body of evidence exists to determine any damages to each member of the proposed Class that resulted from the challenged bylaw, that is consistent with sound economics.
16. I have also been asked to review and evaluate the opinions related to these questions of Dr. Orley Ashenfelter in his report submitted on November 1, 2024, and corrected on November 6, 2024 and again on November 26, 2024 in support of the *Colon* proposed Class (“Ashenfelter Report”),¹² and of Dr. Daniel Rascher in his report submitted on November 1, 2024 in support of the *Smart* proposed Class and amended on November 7, 2024 (“Rascher Report”).¹³

¹⁰ Colon Complaint, ¶¶ 1-2.

¹¹ Smart Complaint, ¶¶ 1-2.

¹² Corrected Report of Orley Ashenfelter, *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, November 26, 2024 (“Ashenfelter Report”). Throughout this report, I reference Dr. Ashenfelter’s corrected report, submitted on November 26, 2024, and refer to that corrected report as the Ashenfelter Report.

¹³ Amended Expert Declaration of Daniel A. Rascher in Support of Motion for Class Certification, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK, November 7, 2024 (“Rascher Report”). Throughout this report, I reference Dr. Rascher’s corrected report, submitted on November 7, 2024, and refer to that corrected report as the Rascher Report.

III. SUMMARY OF OPINIONS

17. Based on my training and professional experience, skill, and knowledge; review and assessment of the Ashenfelter Report and the Rascher Report and their underlying materials; and review and analysis of the data and documents in the case, I have reached the following conclusions.
18. **Opinion 1:** Economic principles and empirical evidence show that assessment of antitrust injury and damages, if any, for each proposed Class member requires an individualized inquiry into school-, sport-, program-, and coach-specific factors and information.¹⁴
 - i. To prove Plaintiffs’ claim that all proposed Class members are injured because they would have been hired as paid coaches in the absence of the challenged bylaw, at least two conditions must have been true: (i) programs in all sports at all schools that had volunteer coaches during the proposed Class period would have hired paid coaches instead of volunteer coaches; and (ii) every proposed Class member would have been hired for one of those additional paid coaching positions. Economic principles and empirical evidence suggest that neither condition is met, which means that one would need a method to determine which programs would have added paid coaching positions and which volunteers (if any) would have been hired for those positions. See **Section V.A.**
 - ii. Whether programs would have hired an additional paid coach if the challenged bylaw had not been in effect depends on school-, sport-, program-, and coach-specific factors and information. *First*, empirical evidence that many programs in sports at issue (i) did not hire additional paid coaches even when the bylaws were amended to permit them to do so and (ii) did not hire the maximum number of paid coaches permitted by the bylaws during the proposed Class period suggests that at least some programs would not have hired an additional paid coach if the challenged bylaw had not been in effect. *Second*, this empirical evidence is

¹⁴ Throughout this report, I refer to a “program” as a specific sport program at a specific school (e.g., Women’s Volleyball at Fresno State; Baseball at the University of Arkansas).

consistent with economic models of the labor market—each program’s hiring decision depends on the specific demand- and supply-side factors that program faces. Plaintiffs’ assertion that every program would have made the same decision and hired an additional paid coach instead of a volunteer ignores these program-specific demand- and supply-side factors. See **Section V.B.**

- iii. Whether each proposed Class member would have been hired for an additional paid position in the but-for world also depends on program- and coach-specific factors. Evidence shows that numerous programs that replaced their volunteer position with a paid position in academic year (“AY”) 2023-24 did not hire former volunteer coaches for these paid positions. This evidence is consistent with labor economic theory, which predicts that volunteers would have faced greater competition for their positions if they had been paid because a broader set of candidates, including some with greater experience and qualifications, would have applied for the paid position. Coach- and position-specific factors would have also affected whether proposed Class members would have wanted and been able to apply for a particular paid position in the but-for world. Plaintiffs’ assertion that every proposed Class member would have been hired for a paid position ignores these program-specific and coach-specific factors. Further, proposed Class members who would not have been hired for a paid or volunteer coaching position would have been worse off than in the actual world. See **Section V.C.**
- iv. Estimating the damages suffered by each volunteer coach who could prove that they would have been hired for an additional paid position in the but-for world also depends on school-, sport-, program-, and coach-specific factors. Consistent with human capital theory which predicts that wages depend on workers’ varying skills and experience, evidence suggests that but-for coaching salaries would vary widely across schools, sports, programs, and coaches, and over time based on variation in the skills and experience of each coach, the level of competition for each position and each program’s demand (or lack thereof) for coaching in a given position. Evidence also shows that volunteers obtained benefits, such as free coaching and

access to facilities, free training for professional careers, and the ability to earn other sources of income, which may not have been available to them if positions were paid. Whether such benefits would have been available and, if not, whether coaches would have wanted a paid position will depend on each program's demand for full-time paid coaches and the value to each coach of the benefits they received. Therefore, calculating damages, if any, to each proposed Class member depends on information specific to each school, sport, program, and coach. See **Section V.D.**

19. **Opinion 2:** Dr. Ashenfelter's claim of classwide injury is based on economically unsound assumptions about the but-for world. His damages model is inconsistent with accepted economic principles regarding how wages are set.
 - i. Dr. Ashenfelter assumes rather than proves that, in the absence of the challenged bylaw, (i) all programs that had a volunteer coach would have replaced that position with a paid one and (ii) all members of the *Colon* proposed Class would have been hired to fill the additional paid positions. Dr. Ashenfelter ignores economic principles and empirical evidence that not all programs that hired members of the *Colon* proposed Class would have created an additional paid position in the but-for world and that many factors other than the challenged bylaw would have limited programs' ability to add a paid coaching position. Dr. Ashenfelter also ignores that paid positions would have attracted more competition than volunteer positions, which would have resulted in some volunteers not being hired for paid positions. In addition, Dr. Ashenfelter's purported evidence of classwide injury is based on flawed economic reasoning that is contradicted by empirical evidence and standard economic theories. See **Section VI.A.**
 - ii. Dr. Ashenfelter's damages model is economically flawed and cannot be used to reliably estimate damages to each *Colon* proposed Class member. His model fails to capture standard supply and demand factors that would influence each individual's compensation and does not consider how these factors may vary across *Colon* proposed Class members. Most notably, Dr. Ashenfelter does not try to account for the basic economic principle that workers with more skill and

experience tend to be paid more in similar positions. In addition, Dr. Ashenfelter's damages model suffers from selection bias because it uses salary data from programs that added paid coaching positions after the bylaws changed to predict what programs that did not would have done in the but-for world. This selection bias will lead to overestimation of damages because programs that hired additional paid coaches likely had greater demand for coaching and the coaches that they hired—many of whom were never volunteers—had more valuable skills and experience than volunteers who were never hired for paid positions. See **Section VI.B.**

20. **Opinion 3:** Dr. Rascher's models fail to reliably estimate injury or damages to each *Smart* proposed Class member. His models are inconsistent with empirical evidence and are economically unsound. Individualized inquiries are necessary to estimate injury or damages to each member of the *Smart* proposed Class.
 - i. The methodology that Dr. Rascher uses to identify the programs that would have added a third paid assistant coach position suffers from critical methodological and conceptual flaws. It fails to account for standard demand- and supply-side factors that will vary from program to program and coach to coach, ignores statistical uncertainty in his estimates, and assumes without evidence that AY 2023-24 hiring decisions can predict hiring decisions during the proposed Class period. In addition, Dr. Rascher uses a probability threshold for identifying programs that would have added a third paid assistant coach position in AY 2018-19 that rests on unreasonable and unsupported assumptions and is economically unsound. See **Section VII.A.**
 - ii. Like Dr. Ashenfelter, Dr. Rascher assumes without support that *Smart* proposed Class members would have been hired for the additional paid positions that would have been created absent the challenged bylaw. He ignores that paid positions would have attracted more competition than volunteer positions, resulting in some coaches who are not in the *Smart* proposed Class being hired instead of volunteers for at least some paid positions in the but-for world. See **Section VII.B.**

- iii. Dr. Rascher's damages methodology is unreliable. *First*, like Dr. Ashenfelter's methodology, it ignores individualized coach and program-specific factors that would influence each individual's compensation, including that more experienced and skilled workers are generally paid more. *Second*, like Dr. Ashenfelter's model, Dr. Rascher's model also suffers from selection bias because it only considers data from programs that added a third paid assistant coach position after the bylaws changed. *Third*, Dr. Rascher's model incorrectly assigns damages for AY 2023-24 for coaches who are not part of the *Smart* proposed Class, including coaches who do not exist. *Fourth*, Dr. Rascher assumes without support that every *Smart* proposed Class member would have taken advantage of healthcare benefits when, in fact, some proposed Class members already had healthcare benefits while they were volunteers. Those coaches would only be injured by not having healthcare benefits through the schools where they volunteered if their actual healthcare benefits were inferior to the benefits that might have been available to them in the but-for world. Any attempt to compare actual and but-for world healthcare benefits for each coach and school would require individualized inquiry. See **Section VII.C.**

IV. BACKGROUND ON NCAA DIVISION I PROGRAMS AND SCHOOLS AND THE NCAA COACH BYLAWS

A. NCAA Division I Programs and Schools

21. The NCAA member schools are divided into three divisions: Division I, II, and III. The challenged bylaw in these cases applied only to schools in Division I. More than 350 schools across the United States currently compete in Division I.¹⁵ Among the three NCAA divisions, Division I schools generally “manage the largest athletic budgets and offer the highest

¹⁵ NCAA, “Overview,” *available at* www.ncaa.org/sports/2021/2/16/overview.aspx, (“Among the three NCAA divisions, Division I schools generally have the biggest student bodies, manage the largest athletics budgets and offer the highest number of athletics scholarships.”); NCAA, “Our Division I Members,” *available at* ncaa.org/sports/2021/5/11/our-division-i-members.aspx (“With more than 350 member schools, Division I provides opportunities for over 190,000 student-athletes to compete in NCAA sports each year.”).

number of athletics scholarships.”^{16,17} As of AY 2015-16, Division I schools varied significantly on a number of dimensions, including school size (10 percent with fewer than 3,000 full-time undergraduate students and 44 percent with 10,000 or more); location (66 percent in a city, 19 percent in a suburb, and 13 percent in a town); and ownership/funding (67 percent public and 33 percent private).¹⁸

22. Division I schools can compete as part of an athletic conference or remain independent, and some schools compete in different conferences in different sports.¹⁹ The conferences in which the Division I schools compete can be either single-sport or “multisport,” meaning that they organize conference championships for a minimum of six men’s and six women’s sports.²⁰ During AY 2022-23, there were 32 Division I multisport conferences, which varied in their members’ sizes, geographic locations, and levels of competition.²¹

¹⁶ NCAA, “Overview,” *available at* www.ncaa.org/sports/2021/2/16/overview.aspx.

¹⁷ Some schools are “multidivisional,” meaning that they compete in one division in a single sport despite being a member of another division for the other sports they sponsor. NCAA, “Divisional Differences and the History of Multidivision Classification,” *available at* www.ncaa.org/sports/2013/11/20/divisional-differences-and-the-history-of-multidivision-classification.aspx (“An institution in Division II or III may elect to participate in Division I in one sport, other than football or basketball and must abide by the Division I bylaws governing the sport, even though their membership rests in another division.”).

¹⁸ NCAA, “Institutional Characteristics of NCAA Member Schools,” *available at* ncaaorg.s3.amazonaws.com/research/demographics/2017RES_institutionalcharacteristics.pdf.

¹⁹ See, e.g., Trent Moore, “Why Is Notre Dame Independent and Not in a College Football Conference?,” *National Broadcasting Company*, August 20, 2024, *available at* www.nbc.com/nbc-insider/why-is-notre-dame-independent-and-not-in-a-football-conference (“Notre Dame’s football team is independent and doesn’t play in a conference, but the team has an agreement with the ACC to play five games per year against ACC opponents, which helps ensure Notre Dame has a competitive schedule resume year-to-year for poll and playoff contention. Outside of football, Notre Dame’s other sports compete in the ACC (except for men’s hockey, which plays in the Big Ten.”).

²⁰ NCAA, “NCAA 2022-23 Division I Manual,” August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, p. 379 (“A multisport conference shall satisfy the following requirements: [...] The conference shall sponsor a minimum of six men’s sports [...] and [...] [t]he conference shall sponsor a minimum of six women’s sports.”).

²¹ NCAA, “NCAA 2022-23 Division I Manual,” August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, p. 411 (Listing 32 conferences).

23. As of AY 2022-23, there were 380 schools with a Division I program for at least one of the 44 sports at-issue in *Colon*²² and 305 schools with a Division I Baseball program.²³

B. NCAA Coach Bylaws

24. NCAA bylaws limit the number of coaches that Division I schools can hire in each sport, and these limits vary from sport to sport.²⁴
25. **Exhibit 1** summarizes (i) the maximum number of coaches that could be paid and number of volunteer coaches permitted by the NCAA bylaws in each sport at issue before July 1, 2023, and (ii) the maximum number of coaches that could be paid permitted by the NCAA bylaws in each sport at issue after July 1, 2023.²⁵

²² Men's and Women's sports are counted as different sports. Football Championship Subdivision ("Football (FCS)") programs are part of the *Colon* proposed Class and are included in this analysis. Football Bowl Subdivision ("Football (FBS)"), Basketball, and Baseball programs are not part of the *Colon* proposed Class and are excluded. See backup materials and **Exhibit 1**.

²³ See backup materials.

²⁴ NCAA, "NCAA 2022-23 Division I Manual," August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, pp. 31-36.

²⁵ The NCAA classifies coaches who are permitted, but not required, to be paid as "countable" coaches. Before AY 2023-24, the NCAA distinguished between countable and volunteer coaches. Throughout this report, I refer to coaches who were permitted to be paid prior to AY 2023-24 as paid coaches.

Exhibit 1
Maximum Number of Coaches Permitted for At-Issue Sports^{26,27}

Sport	AY 2022-23		AY 2023-24
	Paid Coaches	Volunteer Coaches	Paid Coaches
W. Acrobatics & Tumbling	3	2	5
Baseball	3	1	4
W. Beach Volleyball	2	1	3
W. Bowling	2	1	3
M./W. Cross Country	2	1	3
W. Equestrian*	3	2	5
M./W. Fencing	2	1	3
M. Football (FCS)	11	2	13
W. Field Hockey	3	1	4
M./W. Golf	2	1	3
M./W. Gymnastics	3	1	4
M./W. Ice Hockey	3	1	4
M./W. Lacrosse	3	1	4
M./W. Rifle	2	1	3
W. Rowing*	6	4	9
W. Rugby	3	1	4
M./W. Skiing	2	1	3
M./W. Soccer	3	1	4
W. Softball	3	1	4
M./W. Swimming	2	1	3
M./W. Swimming & Diving*	3	2	5
M./W. Tennis	2	1	3
M./W. Track*	3	2	4
M./W. Track & Cross Country*	3	3	6
W. Triathlon*	2	3	3
M./W. Volleyball	3	1	4
M./W. Water Polo	3	1	4
M./W. Wrestling	3	1	4

Notes:

[1] Sports denoted with an asterisk (*) were allowed a different number of coaches depending on certain conditions. Following Dr. Ashenfelter's approach, this exhibit reflects the largest permissible number of coaches for each sport.

[2] These limits apply to single-gender sports. Combined Men's and Women's programs are discussed below.

²⁶ Sources: NCAA, "NCAA 2022-23 Division I Manual," August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, pp. 34-36; NCAA, "NCAA 2023-24 Division I Manual," August 5, 2023, *available at* www.ncaapublications.com/productdownloads/D124.pdf, pp. 31-33; Ashenfelter Report, ¶ 66.

²⁷ Throughout my report, including exhibits, I use Women's Track & Cross Country and Men's Track & Cross Country to refer to Women's Track (Indoor & Outdoor) & Cross Country and Men's Track (Indoor & Outdoor) & Cross Country.

26. In AY 2022-23, limits on the number of paid coaches in a Division I sport for non-combined programs ranged from two paid coaches in sports such as Men's Rifle, Men's Golf, and Women's Beach Volleyball, to 11 paid coaches for Men's Football (FCS). Programs combined across sports (e.g., Women's Swimming and Diving) had different, typically higher, limits than single-sport programs (e.g., Women's Swimming). Combined Men's and Women's programs were allowed to employ the total number of coaches specified separately for men and for women in that sport, up to a maximum of six for co-ed lacrosse and a few other sports.²⁸
27. Before July 1, 2023, an NCAA bylaw allowed Division I programs in sports other than Basketball and Men's Football (FBS) to also hire a certain number of volunteer coaches. In most sports, non-combined programs were permitted to hire a single volunteer coach in addition to the maximum number of paid coaches permitted in that sport. For example, Baseball programs were allowed to hire a coach on a volunteer basis in addition to a maximum of three paid coaches. Combined Men's and Women's programs for most sports were allowed to hire two volunteer coaches.²⁹ For example, a combined Men's and Women's Rifle team was allowed two volunteer coaches in addition to four paid coaches. Most programs that are combined across sports were also allowed to hire more than one volunteer coach.
28. The pre-2023 bylaws defined a volunteer coach as "any coach who does not receive compensation or remuneration from the institution's athletics department or any organization funded in whole or in part by the athletics department or that is involved primarily in the

²⁸ NCAA, "NCAA 2022-23 Division I Manual," August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, p. 34 ("**11.7.6 Limitations on Number of Coaches and Off-Campus Recruiters.**"), p. 35 ("**11.7.6.1 Combined Sports Program.** [A] An institution that conducts a combined program in a sport [...] may employ the total number of coaches specified separately for men and for women in that sport.").

²⁹ NCAA, "NCAA 2022-23 Division I Manual," August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, p. 35 ("**11.7.6.2.3 Volunteer Coach.** [...] In sports in which the NCAA conducts separate men's and women's championships, a combined men's and women's program may use two volunteer coaches.").

promotion of the institution's athletics program.”³⁰ Volunteer coaches could receive certain benefits from schools, such as two tickets to home games, meals during team events, and/or compensation for working at sports camps and clinics affiliated with their schools.³¹

29. In January 2023, the NCAA Division I Council voted to eliminate the volunteer coach designation and to “includ[e] those coaches within a new limit for countable coaches in each of the applicable sports,” effective July 1, 2023.³² As a result, the number of paid coaches permitted increased by one for all sports that had allowed one volunteer. Throughout my report, including exhibits, I refer to countable coaches hired without compensation in AY 2023-24 as volunteer coaches.

V. DETERMINING EACH PROPOSED CLASS MEMBER'S INJURY AND DAMAGES, IF ANY, REQUIRES COACH-SPECIFIC INQUIRY

A. Economic Framework

30. To determine whether any proposed Class member was injured and, if so, by how much, it is necessary to compare that individual's employment status and any associated benefits (i) in the actual world where the challenged bylaw was in effect and (ii) in a but-for world where the challenged bylaw was not in effect.³³

³⁰ NCAA, “NCAA 2022-23 Division I Manual,” August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, p. 27 (Bylaw **11.01.6 Coach, Volunteer**).

³¹ NCAA, “NCAA 2022-23 Division I Manual,” August 1, 2022, *available at* www.ncaapublications.com/productdownloads/D123.pdf, p. 27 (Bylaw **11.01.6 Coach, Volunteer**), p. 37 (Figure 11-1 Coaches' Compensation and Benefits).

³² NCAA, “Division I Council Modernizes Rules for Coaching Limits,” January 11, 2023, *available at* www.ncaa.org/news/2023/1/11/media-center-division-i-council-modernizes-rules-for-coaching-limits.aspx (“The Council voted to eliminate the voluntary coach designation across Division I, instead including those coaches within a new limit for countable coaches in each of the applicable sports.”); NCAA, “NCAA 2023-24 Division I Manual,” August 5, 2023, *available at* www.ncaapublications.com/productdownloads/D124.pdf, p. 29 (“**11.7.1 Designation of Coaching Category.** [...] An individual who coaches and either is uncompensated or receives compensation or remuneration of any sort from the institution, even if such compensation or remuneration is not designated for coaching, shall be designated as a head coach, assistant coach, graduate student coach or student assistant coach by certification of the institution.”).

³³ American Bar Association, *Proving Antitrust Damages: Legal and Economic Issues*, 3rd Ed., ABA Book Publishing, June 30, 2017, p. 91 (“The but-for premise requires some conceptualization of the actions in which the defendant might have engaged in the but-for world, instead of committing the violation.”), p. 105.

31. Both sets of Plaintiffs allege that proposed Class members were injured because if the challenged bylaw had not been in effect, all proposed Class members would have been hired as paid coaches and received “substantial salary and benefits.”³⁴ To prove this claim, at least two conditions must have been true:
 - i. *First*, if the challenged bylaw had not been in effect, *all* programs in *all* sports at *all* schools that had volunteer coaches during the proposed Class period would have hired additional paid coaches instead of volunteer coaches.³⁵
 - ii. *Second*, if the challenged bylaw had not been in effect, *every* proposed Class member would have been hired for one of those additional paid coaching positions.
32. If either of these premises is not correct, then some members of the proposed Class were not injured by the challenged bylaw, and one would need a method to determine which proposed Class members were injured and which were not. As I explain below, basic principles of labor economics and empirical evidence make clear that neither of these two conditions would have been true in the but-for world, and that the assessment of antitrust injury and damages, if any, for each proposed Class member depends on school-, sport-, program-, and coach-specific information.

B. Whether Programs Would Have Hired An Additional Paid Coach Depends on School-, Sport-, Program-, and Coach-Specific Factors and Information

33. There is no economic basis and no empirical evidence to conclude that all Division I programs with a volunteer coach would have hired an additional paid coach instead of a

(“Estimation of damages requires the expert to identify the factors that affected the plaintiff in the actual world and understand how those factors would have affected the plaintiff in the but-for world.”).

³⁴ Colon Complaint, ¶ 68 (“Absent the conspiracy, Plaintiffs and members of the class would have received substantial salary and benefits, commensurate with the salary and benefits received by paid assistant coaches in the same sports at the same member schools, or at a minimum the wages required to be paid by federal and/or state wage-and-hour laws, instead of receiving no compensation for their work.”); Smart Complaint, ¶ 69 (“But for the illegal and unfair restraints put in place, Mr. Smart would have received greater remuneration for his services as a college baseball coach than he received.”).

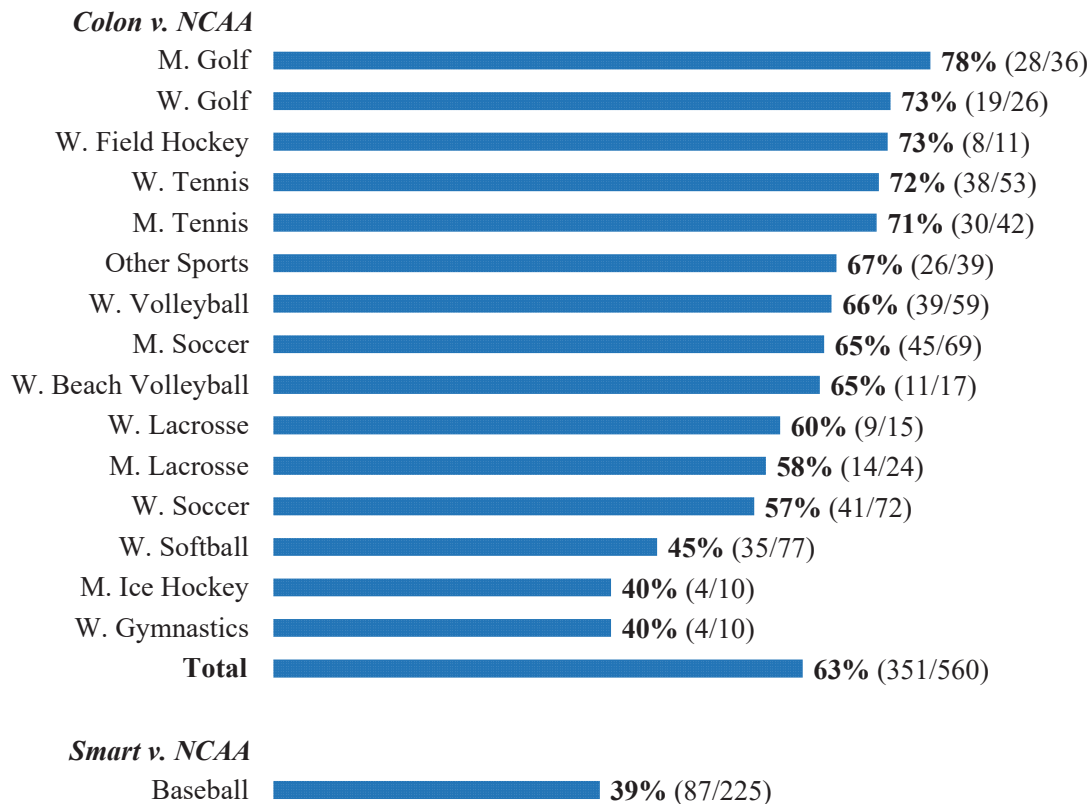
³⁵ Or, said more generally, a sufficient number of additional paid coaching positions would have been created for *every* proposed Class member to have had the opportunity to be hired for a paid coaching position.

volunteer coach in the absence of the challenged bylaw. Empirical evidence and economic principles suggest the opposite.

i. Empirical Evidence Suggests That Not All Programs Would Have Hired an Additional Paid Coach in the But-for World

34. Two sets of empirical evidence suggest that at least some programs would not have hired an additional paid coach in the but-for world:
- i. Many programs did not hire an additional paid coach instead of a volunteer coach in AY 2023-24 following the repeal of the challenged bylaw; and
 - ii. Many programs did not even hire the maximum number of paid coaches permitted during the proposed Class period.
35. **Exhibit 2** below summarizes data for NCAA Division I programs in each sport at issue in *Colon* and *Smart* that had one volunteer coach in AY 2022-23, the last year the challenged bylaw was in effect. The exhibit shows the share of programs that did not replace their volunteer coaching position with a paid position in AY 2023-24, the year after the bylaws were changed.

Exhibit 2
Share of Programs That Did Not Replace Volunteer Position with a Paid Position
in AY 2023-24³⁶



Notes:

[1] This analysis relies on data produced by the schools pursuant to Plaintiffs' subpoenas and through Dr. Rascher's internet research. The analysis includes all sports that allowed a single volunteer coach during the proposed Class period, i.e., all Men's and Women's sports except for M. Football (FCS), W. Equestrian, W. Rowing, and programs combined across sports, such as M. Swimming & Diving and M. Track & Cross Country.

[2] Only programs that had at least one volunteer coach in 2022 and in AY 2022-23 for *Colon* and *Smart*, respectively, are included. Programs for which an outcome could not be determined due to insufficient data are excluded (120 *Colon* programs and six *Smart* programs).

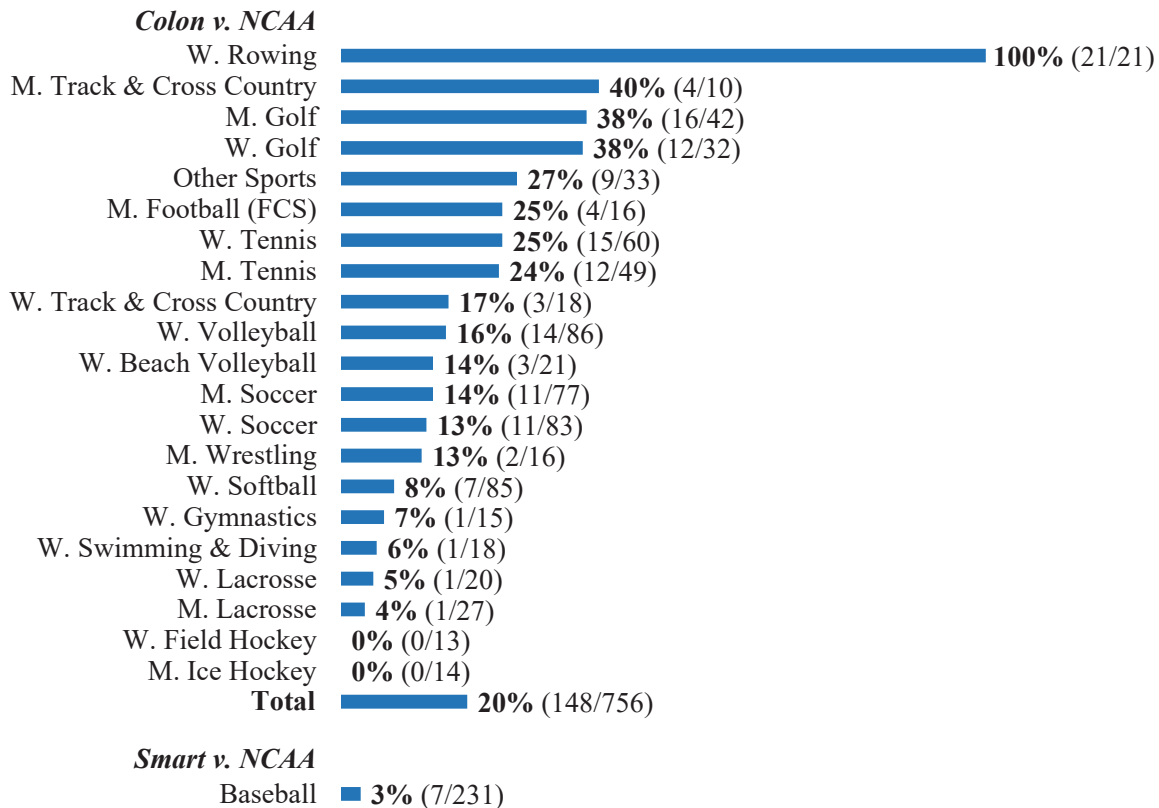
[3] "Did Not Replace Volunteer with a Paid Position" refers to programs that (i) continued to hire at least one volunteer coach in AY 2023-24 and/or (ii) did not have more countable coaches in AY 2023-24 than in AY 2022-23.

[4] For *Colon*, "Other Sports" are sports that have fewer than 10 programs in AY 2022-23: M. Gymnastics, M. Rifle, M. Track & Field, M. Volleyball, M. Water Polo, M. Wrestling, W. Bowling, W. Cross Country, W. Ice Hockey, W. Rugby, W. Swimming, W. Track & Field.

³⁶ Sources: Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Rascher's damages summary data (summ_damages_3.sas7bdat); Rascher's data from web research (vc_checks_research.xlsx); Rascher's volunteer counts from subpoena data (vc_mix.sas7bdat).

36. Across all NCAA Division I sports at issue in *Colon* shown in **Exhibit 2**, 63 percent of the programs that had a volunteer coach in the year before the bylaws changed did *not* replace their volunteer position with a paid one after the bylaws permitted them to do so. Among Baseball programs, 39 percent of such programs did *not* replace their volunteer position with a paid one in AY 2023-24.
37. Notably, the share of programs that had a volunteer position before the bylaws changed but did *not* replace it with a paid position varies substantially across sports. For example, in Women's Softball, the sport for which Ms. Taylor and Ms. Sebbane were volunteer coaches during AY 2022-23, that share was 45 percent (35 out of 77 programs). In contrast, in Women's Volleyball, the sport for which Mr. Barajas was a volunteer coach during AY 2022-23, that share was 66 percent (39 out of 59 programs).
38. **Exhibit 3** below summarizes the share of NCAA Division I programs in each at-issue sport that had a volunteer and hired fewer than the maximum number of paid coaches in AY 2022-23 (during the proposed Class period).

Exhibit 3
Share of Programs That Hired Fewer Than the Maximum Permitted Paid Coaches
in AY 2022-23³⁷



Notes:

[1] This analysis relies on MFRS data for programs of at-issue sports that played in Division I in AY 2022-23. Football (FCS) programs are part of the *Colon* proposed Class and are included in this analysis. Football (FBS) programs are not part of the *Colon* proposed Class and are excluded.

[2] Only programs that had at least one volunteer coach in 2022 and in AY 2022-23 for *Colon* and *Smart*, respectively, are included.

[3] Only programs with available and valid head coach counts and assistant coach counts are included. A program is considered to have hired fewer than the maximum permitted paid coaches if the combined number of head coaches and assistant coaches reported in MFRS is less than the maximum permitted number of paid coaches in AY 2022-23.

[4] This analysis includes 196 additional *Colon* programs and six additional *Smart* programs that were excluded from **Exhibit 2** because they (i) allowed multiple volunteer coaches in AY 2022-23, or (ii) had insufficient data to establish hiring outcomes in AY 2023-24.

[5] For *Colon*, “Other Sports” are sports that have fewer than 10 total programs in AY 2022-23: W. Ice Hockey, M. Swimming & Diving, M. Gymnastics, M. Volleyball, M. Water Polo, W. Bowling, W. Equestrian, W. Water Polo, M. Rifle, and W. Rugby.

³⁷ Sources: Ashenfelter’s countable coach limits (NCAA_restrictions.xlsx); Ashenfelter’s data from schools (analysis_college.dta and analysis_volunteer.dta); Rascher’s damages summary data

39. 20 percent of programs across all sports at issue in *Colon* that had a volunteer in AY 2022-23 did not hire the maximum number of paid coaches permitted by the bylaws. For example, in Women's Volleyball, the sport for which Mr. Barajas was a volunteer coach, 16 percent of programs hired fewer than the maximum number of paid coaches permitted. In Women's Softball, the sport for which Ms. Taylor and Ms. Sebbane were volunteer coaches, eight percent of programs hired fewer than the maximum number of paid coaches permitted. In Baseball, three percent of schools hired fewer than the maximum number of paid coaches permitted by the bylaws in AY 2022-23.
40. These patterns remain consistent when the analysis is extended to include all programs—regardless of whether they had a volunteer coach—for all academic years between AY 2018-19 and AY 2022-23. For example, 26 percent of *Colon* programs and six percent of Baseball programs did not hire the maximum number of paid coaches permitted by the bylaws in AY 2022-23.³⁸
41. These two sets of empirical evidence show that many programs did not hire the maximum number of paid coaches permitted by the bylaws both during and after the proposed Class period. This empirical finding suggests that the maximum number of paid coaches permitted under the bylaws is not determinative of a school's decision regarding how many paid coaches to hire. That, in turn, suggests that not all schools would have hired more paid coaches if the NCAA bylaws permitted them to do so.
42. Dr. Rascher's own report supports this conclusion. For Baseball, Dr. Rascher has developed a model that estimates whether a college or university would hire an additional paid coach in the but-for world based on certain factors.³⁹ Dr. Rascher estimates that 85 Baseball programs

(summ_damages_3.sas7bdat); Rascher's data from MFRS (Revenue & Expense Allocated by School & Sport (All Sports).xlsx); Rascher's data from web research (vc_checks_research.xlsx); Rascher's volunteer counts from subpoena data (vc_mix.sas7bdat).

³⁸ See backup materials.

³⁹ I discuss Dr. Rascher's model in detail in **Section VII**.

would not have hired an additional paid coach if the challenged bylaw had not been in effect, including 72 that had a volunteer coach during the proposed Class period.⁴⁰

43. As noted, compared to Baseball, a much greater share of programs in *Colon* sports that had a volunteer coach in AY 2022-23 did not replace a volunteer position with a paid one in AY 2023-24 (63 percent compared to 39 percent for Baseball).⁴¹ Therefore, economic reasoning indicates that a lower share of the programs in *Colon* would have hired an additional paid coach in the but-for world. Dr. Rascher's model would also be expected to predict the same result.
44. Finally, volunteer coaches exist even where no bylaws prohibit compensation. For example, teams in NCAA Divisions II and III—which were never governed by a similar bylaw—also had volunteer coaches during the proposed Class period.⁴² For example, Westminster University's Women's Basketball team, which plays in NCAA Division II, had a volunteer assistant coach in AY 2021-22.⁴³ The existence of volunteer coach roles in the absence of a bylaw limiting compensation suggests that volunteer positions would exist even without the challenged bylaw limiting volunteers' compensation.

ii. Economic Principles Explain Why Not All Programs Would Have Hired an Additional Paid Coach in the But-for World

45. Data showing (i) that many programs did not hire the maximum number of paid coaches permitted by the bylaws both during and after the proposed Class period, and (ii) that the share of programs that did so varies across sports, are consistent with what I would expect as an economist. According to basic economics of labor markets, the number of workers hired

⁴⁰ See backup materials.

⁴¹ See **Exhibit 2**.

⁴² See, e.g., NCAA, "Personnel Management and Sports Oversight," *available at* www.ncaa.org/sports/2014/9/8/personnel-management-and-sports-oversight.aspx ("Division II institutions often rely extensively on volunteer coaches, so they require adequate attention."); NCAA, "Division II University Program Adopted as Replacement for Annual Coaches Test," January 16, 2019, *available at* www.ncaa.org/news/2019/1/26/division-ii-university-program-adopted-as-replacement-for-annual-coaches-test.aspx ("Division II will have a new method for the annual certification of coaches, [...] requir[ing] all paid and volunteer coaches to complete selected modules in the program each year before they can recruit off campus and direct, supervise or observe countable athletically related activities.").

⁴³ Westminster University, "2021-22 Women's Basketball Coaching Staff," *available at* westminstergriffins.com/sports/womens-basketball/coaches/2021-22.

and their compensation depend on supply and demand factors, which vary from program to program.⁴⁴ Plaintiffs’ assertion that every program would have hired an additional paid coach ignores these individualized demand- and supply-side factors and how they vary from program to program.

a. Demand-side factors

46. A program’s ability to hire an additional paid coach depends on its demand for coaching services, which depends on a range of school-, sport-, and program-specific factors. For example, the University of Arkansas considered a variety of factors, including “the number of student-athletes on each sports team, the projected coach to student-athlete ratio for each sport, the revenue generated by each sport, and other projected salaries and expenditures for each sport” when deciding whether to add paid coaches.⁴⁵
47. In particular, a program’s demand for coaching services depends on whether it has the financial resources to support the salary and benefits of an additional paid coach. For example, Ms. Taylor testified that San Jose State University, where she coached as a volunteer in AY 2022-23, did not have sufficient funds for the Women’s Softball team to add a paid position in AY 2023-24.⁴⁶ Similarly, Fresno State, where Mr. Barajas was a volunteer coach, chose not to add any additional paid coaching positions following the repeal of the

⁴⁴ See, e.g., J. R. Hicks, *The Theory of Wages*, 2nd Ed., Palgrave Macmillan, 1963, p. 1 (“Wages are the price of labour; and thus, in the absence of control, they are determined, like all prices, by supply and demand. The need for a special theory of wages only arises because both the supply of labour, and the demand for it, and the way in which demand and supply interact on the labour market, have certain peculiar properties, which make it impossible to apply to labour the ordinary theory of commodity value without some further consideration.”).

⁴⁵ Declaration of Clayton Hamilton, Senior Associate Vice Chancellor for Campus Services at the University of Arkansas-Fayetteville, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 20, 2024 (“Hamilton Declaration”), ¶ 24.

⁴⁶ Taylor Deposition, 200:13-201:1 (“Q. What did she say during that conversation? A. She said that the university does not have the funds to provide a third paid coach position. And this is when I found out that there was that rule and that there is no longer a volunteer assistant position at San Jose State [...]. Q. So she told you that the school was no longer willing to offer a volunteer position? A. Or a third paid coach opportunity. Q. Okay. So both of those things; no third paid coach and no volunteer? A. Yes.”).

challenged bylaw because “[t]here is no money to hire more assistant coaches.”^{47,48}

Mr. Barajas testified that he understood that Fresno State did not have the funds to pay him for the 2023 season, and he nevertheless agreed to work as an assistant coach without salary or benefits.⁴⁹

48. Declarations from school officials and documents in the record provide additional evidence that the ability to hire an additional paid coach is determined by school- and program-specific factors. For example, the University of California, Davis, which used volunteer coaches in 16 sports in AY 2022-23 and where Mr. Hacker volunteered, chose to add only four new paid assistant coach positions following the change of the bylaws because “it was not an institutional priority for [the school] to convert its volunteer coach position to a paid coach position” and “[t]here was insufficient funding and support to add paid assistant coach positions in [] other sports.”⁵⁰ The school continued to use volunteer coaches in 11 sports.⁵¹ The University of Arkansas, where Mr. Smart volunteered, does not “control adding new permanent, paid positions to its budget,” which is determined by the State of Arkansas.⁵² The university was able to hire additional paid coaches in only four of their 19 sport programs, by

⁴⁷ Declaration of Rob Acunto, Deputy Director of Athletics at California State University, Fresno, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 17, 2024 (“Acunto Declaration”), ¶ 6.

⁴⁸ Declaration of Deborah Adishian-Astone, Vice President for Administration and CFO at California State University, Fresno, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 12, 2024 (“Adishian-Astone Declaration”), ¶ 16.

⁴⁹ Deposition of Rudy Barajas, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK; and *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, October 25, 2024 (“Barajas Deposition”), 133:19-134:9 (“Q. It’s your recollection that there was no money in the Fresno State athletic budget to pay for a salary for you for the 2023 season? A. Where the money would come from I don’t know, but it was just my understanding that there was no money to pay me. [...] Q. [...] You agreed to work as an assistant coach at Fresno State for the 2023 season for no pay; right? A. Yes. Q. Did you receive any benefits from Fresno State like health insurance for the 2023 season? A. No.”).

⁵⁰ Declaration of Josh Flushman, Senior Associate Athletics Director of Sports Administration and Development at the University of California, Davis, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 17, 2024 (“Flushman Declaration”), ¶¶ 16-19.

⁵¹ Flushman Declaration, ¶ 20.

⁵² Hamilton Declaration, ¶ 10 (“The University of Arkansas, including the athletics department, does not control adding new permanent, paid positions to its budget. The State of Arkansas determines the number of full-time, permanent, paid personnel for the University of Arkansas through an annual appropriations act which details the number of positions by job title as well as the maximum salary rates for each position.”).

“utilizing some existing positions that the legislature previously had authorized.”⁵³ Other schools, including Lehigh University, Colgate University, Bucknell University, and Boston University, did not increase their total athletic budgets to fund additional full-time positions, although individual programs were allowed to find other sources of funding for paid positions.⁵⁴

49. Data on coach hiring in AY 2023-24 suggest that budget constraints were a factor in programs’ ability to add paid coaching positions. **Exhibit 4** divides programs that had a volunteer coach in AY 2022-23 (during the proposed Class period) into two groups: (i) those with program expenditures above the median in AY 2022-23 and (ii) those with program expenditures below or equal to the median in AY 2022-23.⁵⁵ For each group, the exhibit shows the share of programs that did not replace their volunteer position with a paid position in AY 2023-24.

⁵³ Hamilton Declaration, ¶ 4 (“The University of Arkansas supports teams across 19 sports.”), ¶ 25 (“Ultimately, the University was able to hire additional paid coaches for Baseball, Women’s Soccer, Softball, and Women’s Gymnastics for the 2023-2024 season by utilizing some existing positions that the legislature previously had authorized and deciding which sports to choose among a longer list of sports that had requested additional assistant coach positions after the bylaw repeal.”) See also Declaration of Christina Wombacher, Senior Associate Athletics Director and Senior Woman Administrator for Arizona State University, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 17, 2024 (“Wombacher Declaration”), ¶ 18 (noting that Arizona State University’s Athletics Department “did not grant all of the head coaches’ requests” to add a new paid assistant coach following the bylaw change and that “ASU did not hire an additional paid assistant coach in most sports in which a volunteer coach previously had been permitted”).

⁵⁴ “Re: Feedback Request - Volunteer Coach Elimination,” June 16, 2023, COLON CONFERENCE 0000101686-1691 [REDACTED]

⁵⁵ This analysis is further restricted to sports with more than 25 programs in the sample, to ensure that there is a sufficient number of programs in each group to draw meaningful conclusions.

Exhibit 4
Share of Programs That Did Not Replace a Volunteer Position
with a Paid Position in AY 2023-24
By Total Program Expenditures in AY 2022-23⁵⁶

Sport	Below or Equal Median Expenditure	Above Median Expenditure
<i>Colon v. NCAA</i>		
W. Tennis	88%	54%
W. Volleyball	86%	45%
M. Golf	78%	78%
M. Tennis	71%	71%
W. Soccer	69%	46%
W. Golf	69%	77%
M. Soccer	69%	62%
W. Softball	67%	24%
Total	74%	52%
<i>Smart v. NCAA</i>		
Baseball	56%	21%

Notes:

[1] This analysis relies on data produced by the schools pursuant to Plaintiffs' subpoenas. The analysis includes all sports that allowed a single volunteer coach during the proposed Class period.

[2] Only programs that had at least one volunteer coach in 2022 and in AY 2022-23 for *Colon* and *Smart*, respectively, are included. Programs for which an outcome could not be determined due to insufficient data are excluded (120 *Colon* programs and six *Smart* programs).

[3] This analysis excludes three programs that did not report total program expenditure in the MFRS data.

[4] This analysis is further restricted to sports with more than 25 programs in the sample, to ensure that there is a sufficient number of programs in each group to draw meaningful conclusions.

[5] "Did Not Replace Volunteer with a Paid Position" refers to programs that (i) continued to hire a volunteer coach in AY 2023-24 and/or (ii) did not have more countable coaches in AY 2023-24 than in AY 2022-23.

[6] The median of total program expenditure per sport is calculated based on the programs included in this analysis.

50. Data show that on average, and in some sports, including sports that Named Plaintiffs coached, programs with expenditures in AY 2022-23 above the within-sport median expenditures were much more likely to replace their volunteer position with a paid position after the bylaws permitted them to do so, compared to programs with expenditures below the

⁵⁶ Sources: Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from MFRS (analysis_ncaa.dta); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Rascher's damages summary data (summ_damages_3.sas7bdat); Rascher's data from MFRS (Revenue & Expense Allocated by School & Sport (All Sports).xlsx); Rascher's data from web research (vc_checks_research.xlsx); Rascher's volunteer counts from subpoena data (vc_mix.sas7bdat).

median. For *Colon* sports, programs with above-median expenditure in AY 2022-23 were, on average, 22 percentage points more likely to replace a volunteer position with a paid position in AY 2023-24.⁵⁷ For Baseball, the difference is even greater, at 35 percentage points.⁵⁸

51. Data also show that programs with lower expenditures were less likely to hire the maximum number of paid coaches permitted during the proposed Class period. **Exhibit 5** presents the share of Division I programs with a volunteer coach in AY 2022-23 that did not hire the maximum number of paid coaches permitted, by sport.⁵⁹ Within each sport, programs are divided into two groups: (i) those with program expenditures above the median for that sport in AY 2022-23 and (ii) those with program expenditures below or equal to the median in AY 2022-23.

⁵⁷ 74%-52% = 22 percentage points.

⁵⁸ 56%-21% = 35 percentage points.

⁵⁹ This analysis is further restricted to sports with more than 25 programs in the sample, to ensure that there is a sufficient number of programs in each group to draw meaningful conclusions.

Exhibit 5
Share of Programs That Hired Fewer Than Maximum Permitted Paid Coaches
By Total Program Expenditures in AY 2022-23⁶⁰

Sport	Below or Equal Median Expenditure	Above Median Expenditure
<i>Colon v. NCAA</i>		
M. Golf	67%	10%
W. Golf	63%	13%
W. Tennis	50%	0%
M. Tennis	48%	0%
W. Volleyball	28%	5%
W. Soccer	24%	2%
M. Soccer	21%	8%
W. Softball	16%	0%
M. Lacrosse	7%	0%
Total	33%	4%
<i>Smart v. NCAA</i>		
Baseball	5%	1%

Notes:

[1] This analysis relies on MFRS data for programs of at-issue sports that played in Division I in AY 2022-23. This analysis is further restricted to sports with more than 25 programs in the sample to ensure that there is a sufficient number of programs in each expenditure group to draw meaningful conclusions.

[2] Only programs that had at least one volunteer coach in 2022 and in AY 2022-23 for *Colon* and *Smart*, respectively, are included.

[3] For *Colon* and *Smart*, only programs with available and valid head coach counts and assistant coach counts are included.

[4] This analysis includes 110 additional *Colon* programs and six additional *Smart* programs that were excluded from **Exhibit 4** which (i) allowed multiple volunteer coaches in AY 2022-23, or (ii) had insufficient data to establish hiring outcomes in AY 2023-24.

[5] For *Colon* and *Smart*, a program is considered to have hired fewer than the maximum number of paid coaches permitted if the combined number of head coaches and assistant coaches reported in MFRS is less than the maximum permitted number of paid coaches in AY 2022-23.

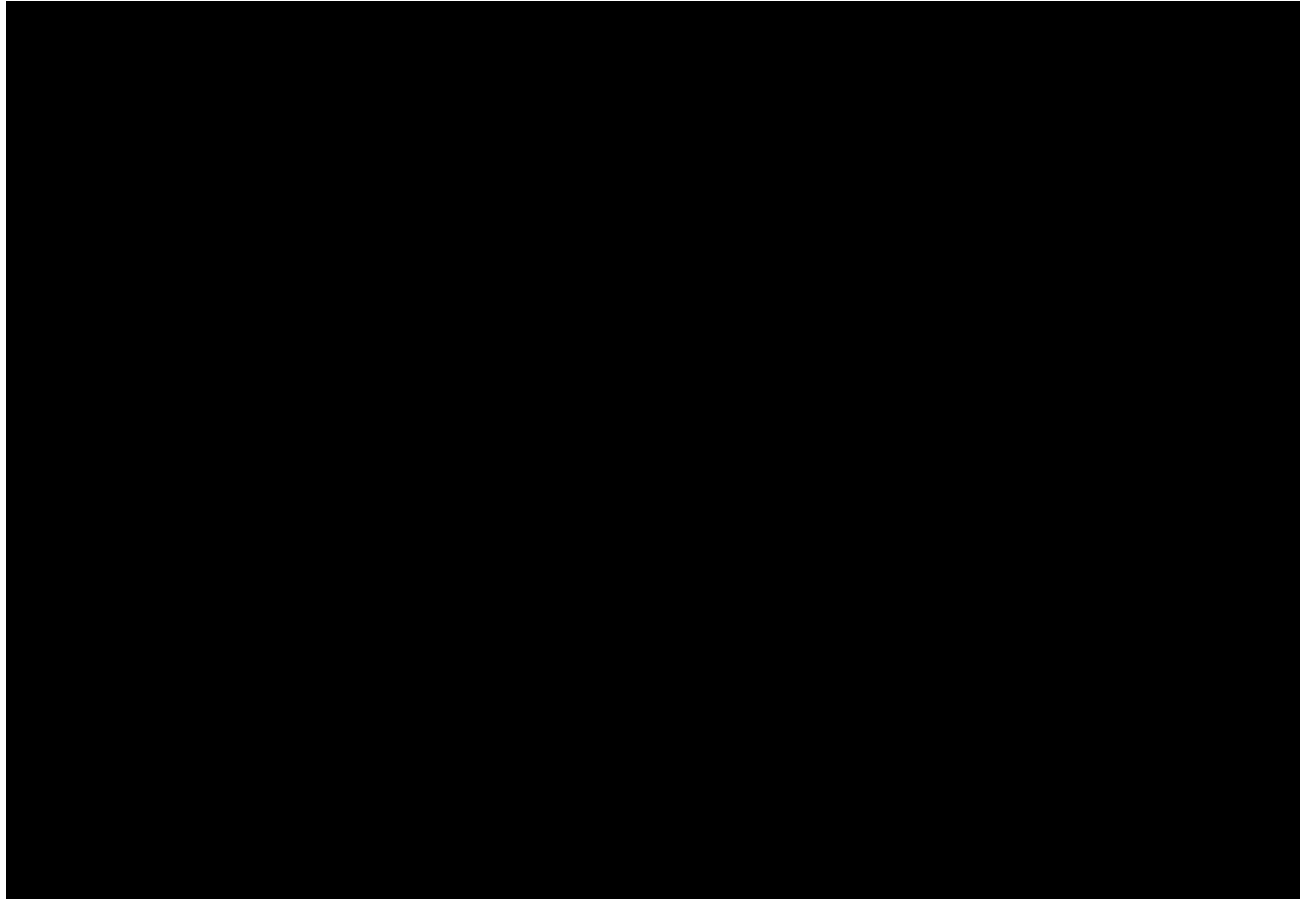
52. Across all sports in the exhibit, programs with lower total expenditures for a given sport were less likely to hire the maximum number of paid coaches permitted by the bylaws. For example, in Women's Volleyball, the sport for which Mr. Barajas was a volunteer coach, 28 percent of programs in the sample with below-median total expenditures did not hire the maximum number of paid coaches permitted by the bylaws (i.e., three coaches), compared to

⁶⁰ Sources: Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Rascher's data from MFRS (Revenue & Expense Allocated by School & Sport (All Sports).xlsx).

five percent of the programs with above-median total expenditures. In Women's Softball, which Ms. Sebbane and Ms. Taylor coached as volunteers, 16 percent of programs with below-median total expenditures did not hire the maximum number of paid coaches permitted by the bylaws (i.e., three coaches), compared to none of the programs with above-median expenditures. In Baseball, five percent of programs with below-median expenditures hired fewer than the maximum number of paid coaches permitted by the bylaws (i.e., three coaches) in AY 2022-23, compared to one percent of the programs with above-median expenditures.

53. Finally, program expenditures vary over time, which suggests that program decisions may also vary over time to the extent that they are affected by programs' resource constraints. **Exhibit 6** shows changes in total program expenditure over time for programs in three Named Plaintiff sport-conferences that had a volunteer coach during the proposed Class period. For each program, I use AY 2018-19 as the index year and normalize total expenditures in following years according to that year. This indexing methodology—compared to focusing on simple differences in expenditure levels—allows for a clearer visualization of how total expenditure evolves differently for individual programs over time within the same sport.

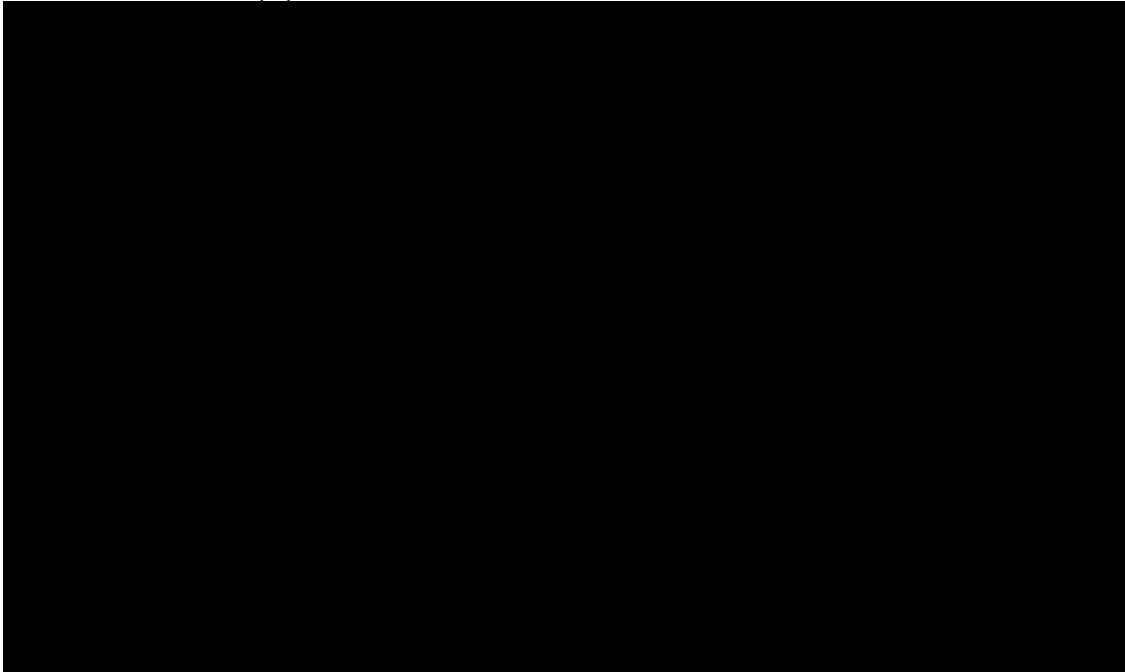
Exhibit 6
Changes in Total Program Expenditure in Programs in Select Named Plaintiff Sport-Conferences with a Volunteer Coach During Proposed Class Period^{61, 62}



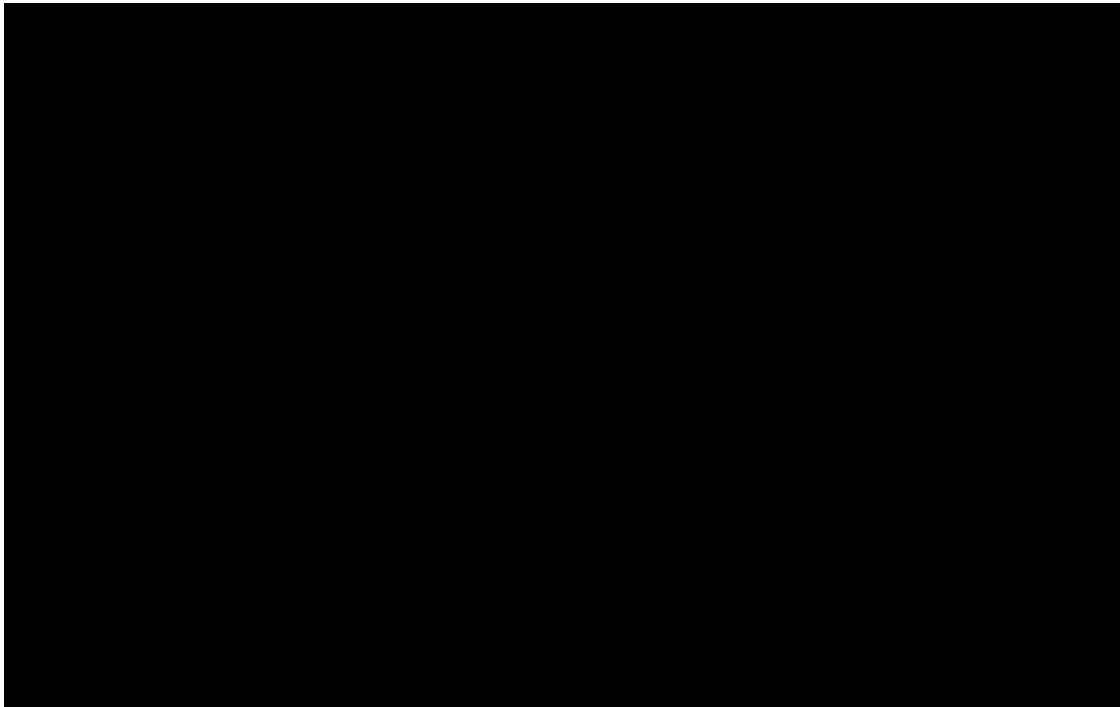
⁶¹ Sources: Ashenfelter's data from MFRS (analysis_ncaa.dta); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Rascher's data from MFRS (Revenue & Expense Allocated by School & Sport (All Sports).xlsx); Rascher's data from web research (vc_checks_research.xlsx); Rascher's volunteer counts from subpoena data (vc_mix.sas7bdat).

⁶² Named Plaintiff sports Combined Track & Field and Combined Swimming & Diving are not included in this analysis. Expenditure data for combined teams is often reported separately under Men's and Women's teams. While the Men's and Women's teams' individual expenditures could be summed to determine combined team expenditure, this total expenditure may not afford an apples-to-apples comparison with other programs' total expenditure, because it would not take into account potential overlap in spending between the school's Men's and Women's teams, to the extent that such overlap exists.

(B) Women's Softball – Atlantic Coast Conference



(C) Women's Volleyball – Mountain West Conference



Notes:

[1] Total Program Expenditure is the total amount spent annually by each school on an individual sport team.

[2] This analysis includes programs that competed in a Named Plaintiff sport-conference throughout the entire proposed Class period and had a volunteer in at least one year of the proposed Class period.

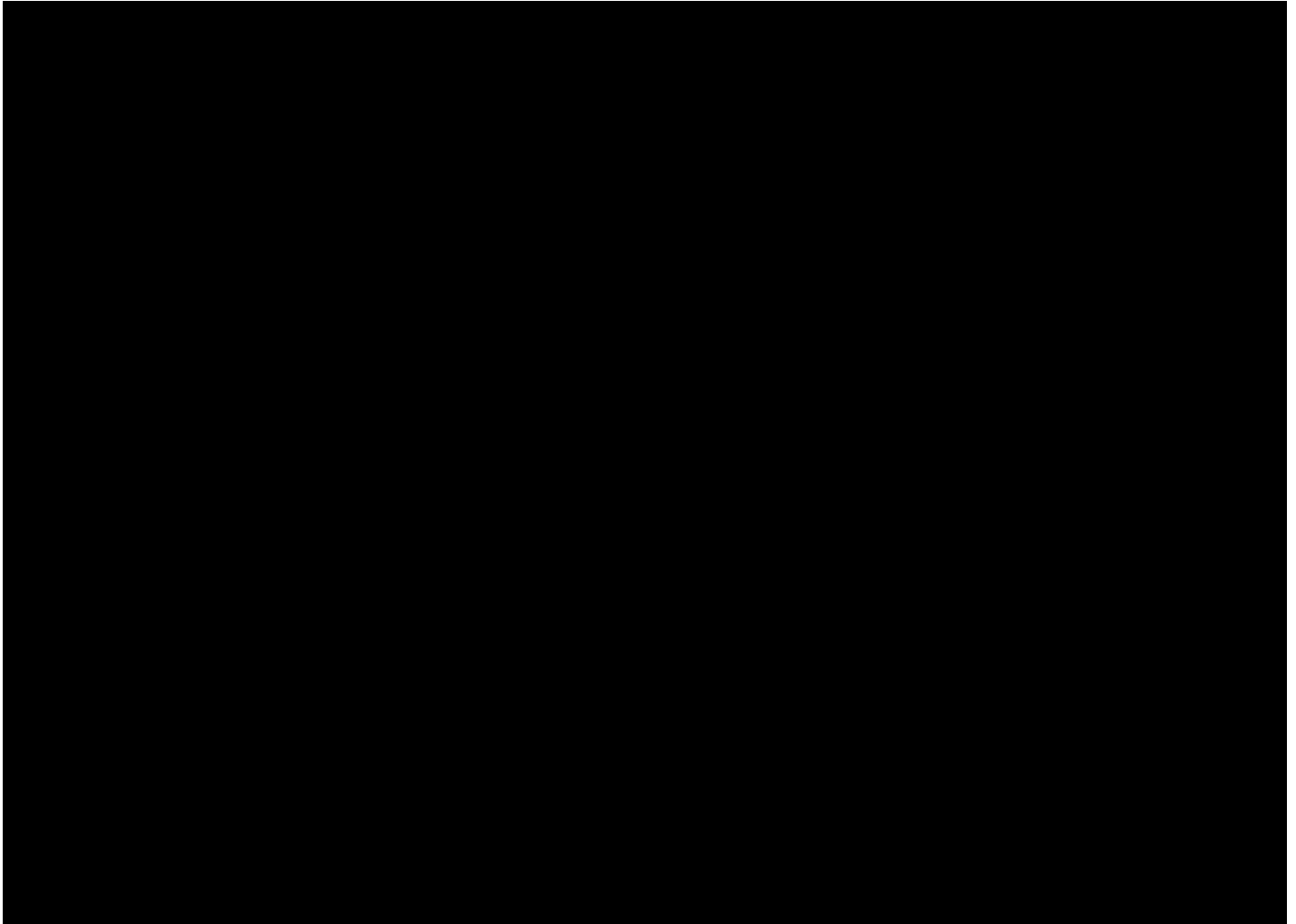
[3] Each school's program expenditure was indexed by dividing the school's program expenditure in every year of the proposed Class period by the school's program expenditure in AY 2018-19 and multiplying the result by 100.

54. Panel (A) shows the variation in changes in total expenditures for Baseball programs in The Big West Conference, in which the University of California, Davis, where Mr. Hacker was a volunteer coach, competed throughout the proposed Class period. The data show that there is significant variation across programs in their year-over-year changes in total expenditure. For example, the University of California, Davis ██████ its total Baseball expenditure by almost ██████ percent between AY 2018-19 and AY 2019-20 and ██████ it in AY 2020-21 to almost ██████ percent of its AY 2018-19 total Baseball expenditure. During these same years, California State University, Northridge showed the exact opposite pattern by ██████ its total Baseball expenditure by almost ██████ percent and then ██████ it to the level corresponding to approximately ██████ percent of its AY 2018-19 total Baseball expenditure.
55. Panel (B) presents the same analysis for Women's Softball programs in the Atlantic Coast Conference, in which the University of Pittsburgh, where Ms. Sebbane coached as a volunteer, competed during the proposed Class period. Panel (C) presents the trends for Women's Volleyball programs in the Mountain West Conference, in which Fresno State, where Mr. Barajas coached as a volunteer, competed throughout the proposed Class period. Expenditures in these sports at these schools also varied over time. Taken together, these results suggest that individual programs' budget constraints and their ability to fund coach salaries and benefits vary across each other and across time because they reflect school- and program-specific factors.
56. Because programs' decisions regarding how many paid coaches to hire are based on their finances and those finances vary from school to school and program to program over time, programs' decisions regarding how many paid coaches to hire will vary across programs and across time.
57. However, empirical evidence indicates that a program's financial resources alone do not fully explain each program's decision whether to create an additional paid coaching position. For example, **Exhibit 4** shows that for one sport, Women's Golf, programs with above-median expenditure relative to other programs in the same sport were *more* likely (77 percent) to not add a paid position to replace a volunteer position following the repeal of the challenged bylaw compared to programs with below-median expenditure (69 percent). In contrast, Women's Tennis, Women's Soccer, and Women's Softball have the opposite pattern.

58. Empirical evidence suggests that programs allocate their resources in different ways. Data from the MFRS on which Drs. Ashenfelter and Rascher rely show that programs in the same sport spend very different shares of their budgets on coaching compensation. For example, across programs in each of Baseball, Women's Softball, and Women's Volleyball, the sports for which Mr. Smart, Mr. Hacker, Ms. Taylor, Ms. Sebbane, and Mr. Barajas were volunteer coaches, data show that the share of total expenditures that programs spent on paid coach salaries, benefits, and bonuses varied widely in AY 2022-23. The wide range of the shares spanned from five percent to 53 percent for 303 Baseball programs, three percent to 56 percent for 304 Women's Softball programs, and four percent to 67 percent for 341 Women's Volleyball programs.⁶³
59. The share of coaching expenditures also varies significantly across sports in a given school, which reflects school- and program-specific budget constraints and priorities. **Exhibit 7** presents two examples of such empirical evidence.

⁶³ See backup materials.

Exhibit 7
Variation in Share of Expenditure on Coaching Among Selected Named Plaintiff
Schools in AY 2022-23⁶⁴



60. As shown in Panel (A), programs at the University of California, Davis, at which Mr. Hacker was a Baseball volunteer coach, spent different shares of their budgets on coaching. While the Women's Equestrian program spent [REDACTED] percent of its total expenditures on coach salaries, benefits, and bonuses, the corresponding figure for the Men's Soccer program was [REDACTED] percent.
61. Similarly, Panel (B) shows that programs at the University of Virginia where Mr. Robinson was a volunteer swimming coach spent very different shares of their expenditures on

⁶⁴ Sources: Ashenfelter's data from MFRS (analysis_ncaa.dta); Rascher's data from MFRS (Revenue & Expense Allocated by School & Sport (All Sports).xlsx).

coaching. While the Men's and Women's Swimming and Diving program spent [REDACTED] percent of its total expenditures on coaches, other programs spent as little as [REDACTED] percent (Women's Rowing) and as much as [REDACTED] percent (Men's Tennis). These examples suggest that different programs value coaching differently.

62. Even programs that spend similar amounts on a given sport made different decisions about creating an additional paid coaching position when the bylaws permitted them to do so, which suggests that factors other than finances explain schools' decisions. For example, in the Atlantic Coast Conference, the University of Pittsburgh and the University of Virginia spent approximately [REDACTED] on their Women's Softball programs in AY 2022-23, but while Pittsburgh hired an additional paid Women's Softball coach in AY 2023-24, the University of Virginia did not add a paid position in Women's Softball.⁶⁵ Similarly, in the Big West conference, both the University of California, Davis and University of California, Riverside spent approximately [REDACTED] on their Baseball program in AY 2022-23. However, the former replaced its volunteer position with a paid position in AY 2023-24, while the latter did not.⁶⁶
63. In addition, some of the highest-spending programs did not replace their volunteer coach position with a paid one after the bylaws were changed. For example, the University of Mississippi, which competes in the Southeastern Conference, was among the [REDACTED] percent of Men's Tennis programs by expenditure, spending approximately [REDACTED] in AY 2022-23. But the program did not replace its volunteer coach position with a paid one in AY 2023-24.⁶⁷
64. Programs within a given school might also have different priorities for their coaching budget. Some programs would prefer to pay fewer coaches more instead of hiring the maximum number of paid coaches, while others would choose to maximize the number of coaches they hire. For example, Columbia University's Women's Softball program elected not to add a paid position in AY 2023-24 because it "prefer[red] to increase salaries for current

⁶⁵ See backup materials.

⁶⁶ See backup materials.

⁶⁷ See backup materials.

Ass[istan]t Coaches.”⁶⁸ Similarly, following the repeal of the challenged bylaw, the University of Pittsburgh gave each program’s head coach “the flexibility to recommend whether to allocate [the budget already available to them] to hire an additional countable coach, to hire a director of operations (if they did not already have one), to reallocate the salaries for their existing coaching staff to create funds for an additional coach, and/or to allocate the funds to salaries for their current set of coaching and operations positions.”⁶⁹

b. Supply-side factors

65. A program’s decision whether to hire an additional paid coach or continue to hire a volunteer also depends on whether there would have been a sufficient supply of individuals willing to coach on a volunteer basis such that the school would have the option to hire a volunteer.⁷⁰
66. Such supply would depend on the benefits associated with the volunteer positions. I describe some of these benefits below. For example, Ms. Ray, who was training as a professional athlete while she was a volunteer coach at Arizona State University, received free coaching from the university’s coaching staff, access to track and weight room facilities, physical therapy, and chiropractic services because of her coaching position.⁷¹ She testified that she took the volunteer coaching position at Arizona State University to be coached by Dion Miller, Arizona State University’s head track and field coach.⁷² When she left the volunteer

⁶⁸ Columbia Athletics, “Volunteer Coach Transition,” July 11, 2023, SMART_COLON_THIRD PARTY_0000134313.

⁶⁹ Declaration of Ryan Varley, Senior Associate Athletic Director, Finance and Strategy at the University of Pittsburgh, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 16, 2024 (“Varley Declaration”), ¶ 17.

⁷⁰ Specifically, the decision depends on the supply of individuals willing to work as a volunteer coach, (i) relative to the supply of individuals willing to coach with compensation and (ii) given the wages they would have commanded.

⁷¹ Ray Deposition, 110:10-113:4 (“Q. And you received coaching from Arizona State’s coaching staff, correct? [...] Did you have to pay for the coaching services of Dion Miller? A. No, I did not pay for the coaching services. Q. Did you have to pay to use the track and weight room facilities for your own training? A. No, I did not have to pay. [...] Q. Did you have physical therapy while you were at Arizona State? A. Yes. Q. Did you have to pay for it? A. Yes. Q. How much did you pay for physical therapy at Arizona State? A. [...] I did not pay for services if I was to receive like some – like a chiropractor at Arizona State, I did not pay for that, or if I was to see one of the athlete trainers, I did not pay for that. [...] Q. But if it was inside Arizona State, that was provided to you as something that came with being a coach? A. Correct.”).

⁷² Ray Deposition, 163:3-6 (“Q. You sought to be a coach at Arizona State because you wanted to work with Dion Miller as a coach as a professional track athlete, right? A. Yes.”).

coach position to move to Orlando to work with a different coach, she had to pay a monthly fee for the new coach and another fee for access to facilities.⁷³

67. Similarly, nine-time Olympic swimming gold medalist Katie Ledecky joined the University of Florida's Swimming and Diving program in AY 2021-22 as a volunteer swimming coach. She did so to train for the 2024 Olympics with University of Florida's head swimming coach Anthony Nesty, who was an assistant coach for Team USA at the Tokyo Olympics, and to be closer to home and family.⁷⁴ Three-time Olympic shotput gold medalist Ryan Crouser is a volunteer coach for the University of Arkansas' Men's Track and Field program, where he is training with coach Mario Sategna, who accompanied him to the 2016 Olympics in Rio De Janeiro.⁷⁵
68. Volunteer coaches at some programs were also able to earn monetary compensation that may not have been available had the position been paid. For example, some volunteer coaches received payment for coaching camps using the school's facilities. Mr. Smart testified that, as a volunteer coach at the University of Arkansas, he earned about \$100,000 from coaching baseball camps for about a year and a half and provided private baseball instruction for 20-30 hours per week to youth players he met through the baseball camps.⁷⁶ Mr. Barajas also

⁷³ Ray Deposition, 110:21-111:7 (“Q. [...] [D]id you have to pay for Gary Evans as a coach in Orlando? A. Yes. Q. How much did you have to pay Gary Evans as a coach? A. \$700 monthly. Q. Did you have to pay an additional amount to use certain facilities? A. Yes. Q. How much? A. \$250 monthly.”).

⁷⁴ Bridgette Underwood, “Katie Ledecky Joins Gators Coaching Staff,” *Florida Gators*, September 22, 2021, available at floridagators.com/news/2021/9/22/mens-swimming-diving-katie-ledecky-joins-gators-coaching-staff.aspx (“Seven-time Olympic gold medalist Katie Ledecky has joined the Florida swimming and diving program as a volunteer swimming coach. Ledecky announced on Wednesday that she will train for the 2024 Olympics in Gainesville with Florida head coach Anthony Nesty, who was an assistant coach for Team USA at the Tokyo Olympics.”).

⁷⁵ University of Arkansas, “Ryan Crouser,” available at arkansasrazorbacks.com/coache/ryan-crouser/ (“Olympic champion Ryan Crouser joined the Razorbacks as a volunteer assistant for the men's track & field program. [...] ‘I was with Ryan in Rio when he won the gold medal and with him throughout his college career, and I am very excited as a coach to have him here and to have the opportunity to work with him again,’ Arkansas assistant coach Mario Sategna said. [...] ‘I’m looking forward to working with Coach Sategna, his focus on fundamentals and attention to detail helps lay the foundation for athletic success at all levels from novice to professional,’ Crouser said.”).

⁷⁶ Deposition of Taylor Smart, *Taylor Smart, et al. v. NCAA, 22-cv-02125-WBS-CSK; and Joseph Colon, et al v. NCAA, 23-cv-00425-WBS-CSK*, September 24, 2024 (“Smart Deposition”), 113:17-114:18 (“Q. Now I think you mentioned while you were volunteering at Arkansas you gave private baseball instruction? A. Yes. Q. And who did you give private lessons to while you were volunteering at Arkansas? A. Youth players that were – that resided in – in Fayetteville, Arkansas, that – yeah, youth players was who I was giving instruction to. Q. And how did you connect – get connected with the youth players that you gave private instruction to at Arkansas? A.

worked at Volleyball summer camps affiliated with Fresno State and Ms. Sebbane worked at Women's Softball camps affiliated with the University of Pittsburgh.⁷⁷ Additionally, some volunteer coaches received compensation for other part-time jobs at the university related to their ties to the university as a volunteer coach.⁷⁸

69. These examples show that benefits associated with volunteer positions would have varied across schools, programs, and coaches in the but-for world. Therefore, the availability of individuals who would have been willing to coach on a volunteer basis in the but-for world would also vary from program and program and create different economic incentives for programs to create additional paid coaching positions in the but-for world.

c. Demand and supply factors lead to school-, sport-, program-, and coach-specific variation in programs' hiring decisions

70. Empirical evidence shows that variation in demand and supply factors results in highly variable hiring decisions, which indicates that determining whether a program would have hired an additional paid coach in the but-for world would require examining program-specific evidence.
71. Even programs in the same sport in the same conference that likely share certain characteristics made different decisions about whether to hire additional paid coaches when

I mean, a number of different ways. Through like the marketing stuff that I did for the camps for my outreach. I connected with a lot of youth coaches in the area that liked my coaching style, that heard me speak in front of, you know, a hundred kids at a camp or something like that. I mean, like parents and kids at a camp approached me about, hey, do you do private lessons, you know, on the side? You know, anything else that you do that we can get instruction from you? And a lot of times that's how it was – how it was done. Q. And about how many hours a week would you give private lessons when you were volunteering at Arkansas? A. I don't know the exact number of hours, but I would say approximately 20 or 30 hours a week.”)

⁷⁷ See, e.g., Barajas Deposition, 116:14-20 (“Q. So in the summers between 2018 and 2020 you worked for a few weeks at volleyball camps affiliated with Fresno State? A. Yes. Q. And you made a little more than \$1,000 doing that? A. Yes.”); Deposition of Katherine Sebbane, *Joseph Colon, et al. v. NCAA, 23-cv-00425-WBS-CSK*, October 28, 2024 (“Sebbane Deposition”), 84:10-13 (“Q. What was the other job that you had at this time? A. I worked camps and clinics, whether it was [affiliated with the University of] Pitt[sburgh] or not [affiliated with the University of] Pitt[sburgh].”).

⁷⁸ For example, in 2022, while serving as Baseball volunteer coaches at the College of Charleston, [REDACTED] worked as the college's groundskeepers. They were each paid [REDACTED] and [REDACTED] for their work as groundkeepers. “College of Charleston data on coaches,” SMART_SCHLS_0000001437. The volunteer diving coach at Arizona State University was compensated for his work running the student intercollegiate club program. Wombacher Declaration, ¶ 16 (“When Marc Briggs was a volunteer diving coach, he ran the student intercollegiate club program and was compensated by the student participants for that work.”).

the bylaws permitted them to do so. **Exhibit 8** shows the AY 2023-24 hiring decisions of *Colon* programs with volunteer coaches in AY 2022-23 in the three conferences in which Named Plaintiffs were volunteers—the Atlantic Coast Conference (“ACC”), Mountain West Conference, and Pac-12 Conference. Dr. Ashenfelter’s data and codes provide sufficient information to categorize *Colon* programs into those that replaced a volunteer position with a paid position (in green) and those that did not (in red).

Exhibit 8

Hiring Outcomes by *Colon* Sport for Selected Conferences in AY 2023-24⁷⁹

Outcome Legend											
Replaced Volunteer with a Paid Position											
Did Not Replace Volunteer with a Paid Position											
School	Women's Soccer	Women's Volleyball	Women's Softball	Women's Tennis	Men's Golf	Men's Tennis	Men's Soccer	Men's Wrestling	Women's Golf	Women's Gymnastics	
Atlantic Coast Conference											
Florida State University											
Georgia Institute of Technology											
University of North Carolina, Chapel Hill											
University of Pittsburgh											
University of Virginia											
Virginia Polytechnic Institute and State University											
Mountain West Conference											
California State University, Fresno											
San Jose State University											
University of Nevada, Las Vegas											
Pac-12 Conference											
Oregon State University											
University of Oregon											
University of Utah											

⁷⁹ Sources: Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta).

Notes:

[1] This analysis relies on data produced by the schools pursuant to Plaintiffs' subpoenas. The analysis includes all sports that allowed a single volunteer coach during the proposed Class period.

[2] Only programs that had at least one volunteer coach in 2022 are included. Programs for which an outcome could not be determined due to insufficient data are excluded (27 programs).

[3] Only sports with more than three programs in the three Named Plaintiff conferences are included to allow for within-sport comparisons.

[4] "Did Not Replace Volunteer with a Paid Position" refers to programs that (i) continued to hire a volunteer coach in AY 2023-24 and/or (ii) did not have more countable coaches in AY 2023-24 than in AY 2022-23. "Replaced Volunteer with a Paid Position" refers to programs that (i) did not hire a volunteer coach in AY 2023-24 and (ii) did not have more countable coaches in AY 2023-24 than in AY 2022-23.

72. The exhibit shows that even schools within the same conference made different hiring decisions in the same sport following the repeal of the challenged bylaw. The fact that schools in the same conference who share some characteristics made different hiring decisions in the same sport suggests that factors affecting the decision to hire additional paid coaches are school-specific.
73. **Exhibit 8** also shows that some schools made different hiring decisions in different sports. For example, at the University of Virginia, where Mr. Robinson was a volunteer swimming coach, five programs replaced volunteer positions with paid positions in AY 2022-23, and two did not. This also suggests that whether a school decides to hire additional paid coaches is affected by highly sport-specific factors.
74. Evidence suggests that the same is true in Baseball. **Exhibit 9** shows hiring outcomes in AY 2023-24 for Baseball programs in two Named Plaintiff conferences—the Southeastern Conference ("SEC") and Big West Conference—and a third conference, Big South, which had lower average expenditure on Baseball per school than the Named Plaintiff conferences.⁸⁰ Dr. Rascher's data and codes provide sufficient information to categorize Baseball programs into those that replaced a volunteer position with a paid position (in green), those that continued to have a volunteer coach (red), and those that did neither (in yellow).

⁸⁰ Of 30 conferences, SEC was ranked 1 and Big West 10 respectively in terms of average expenditure on Baseball in AY 2022-23. Big South was ranked 20. See backup materials.

Exhibit 9**Hiring Outcomes for Selected Conferences for *Smart* Programs in AY 2023-24⁸¹****Outcome Legend**

Replaced Volunteer with a Paid Position
Did Not Replace Volunteer with a Paid Position and Did Not Have a Volunteer
Had a Volunteer

Conference	School	Outcome
Big South Conference	Campbell	
	Charleston Southern	
	Gardner-Webb	
	High Point	
	Longwood	
	Radford	
	South Carolina Upstate	
	UNC Asheville	
Big West Conference	CS Northridge	
	CSU Bakersfield	
	Cal Poly	
	Cal State Fullerton	
	Hawaii	
	Long Beach State	
	UC Davis	
	UC Irvine	
	UC Riverside	
	UC San Diego	
Southeastern Conference	Alabama	
	Arkansas	
	Auburn	
	Florida	
	Georgia	
	Kentucky	
	LSU	
	Mississippi State	
	Missouri	
	Ole Miss	
	South Carolina	
	Tennessee	
	Vanderbilt	

Notes:

[1] This analysis relies on data produced by the schools pursuant to Plaintiffs' subpoenas and through Dr. Rascher's internet research.

[2] Only programs that had a volunteer coach in AY 2022-23 are included.

[3] “Did Not Replace Volunteer with a Paid Position and Did Not Have a Volunteer” refers to programs that i) did not hire a volunteer coach or have insufficient information in the data to determine whether they hired a volunteer coach in AY 2023-24 and/or ii) did not have more countable coaches in AY 2023-24 than in AY 2022-23. “Had a volunteer” refers to programs that had at least one volunteer in AY 2023-24. “Replaced Volunteer with a Paid Position” refers to programs that i) did not hire a volunteer coach in AY 2023-24 and ii) did not have more countable coaches in AY 2023-24 than in AY 2022-23.

[4] The three conferences included in the analysis are selected based on their average spending per school on baseball in AY 2022-23. The conferences ranked 1st (Southeastern), 10th (Big West), and 20th (Big South) out of 30 conferences in terms of average spending are chosen to represent the range of the expenditure distribution. Southeastern (Arkansas) and Big West (UC Davis) are Named Plaintiff conferences.

75. The exhibit shows that, in the Big West conference, four schools continued to have volunteers, while six replaced a volunteer position with a paid position. In the Big South conference, only Charleston Southern replaced a volunteer position with a paid position. Four schools continued to have a volunteer coach, and three did neither. Again, the fact that schools in the same conference who share some characteristics made different hiring decisions in the same sport suggests that the factors affecting the decision to hire additional paid coaches are school-specific.⁸²
76. Evidence also shows these factors may change over time because some programs hired different numbers of paid coaches in the same sport in different years during the proposed Class period:
 - i. The number of paid coaches in Norfolk State University’s Baseball program decreased from three in AY 2018-19 to two throughout the remaining years of the proposed Class period.⁸³

⁸¹ Sources: Rascher’s damages summary data (summ_damages_3.sas7bdat); Rascher’s data from web research (vc_checks_research.xlsx); Rascher’s probit model input data (reg_data.sas7bdat); Rascher’s volunteer counts from subpoena data (vc_mix.sas7bdat).

⁸² Rascher Report, ¶ 161 (“Teams competing in the same conference are peers, who have self-sorted into cohorts of similar stature by performance, goals, and budgets. At the same time, teams within the same conference are competitors which try to maintain a parity of outcomes and competitive balance within the conference. That is, if a team observes some sufficiently large proportion of its conference peers hiring more coaches, the economic outcome is likely to be a decision to do the same to maintain a competitive edge.”).

⁸³ See backup materials.

- ii. The number of paid coaches employed at Davidson College's Women's Volleyball program changed every year between AY 2018-19 and AY 2021-22, fluctuating between two and three.⁸⁴
- iii. The number of coaches employed at Niagara University's Women's Track & Field and Cross Country program also changed almost every year; they had three paid coaches in AY 2018-19, only one coach in AY 2019-20, two coaches in AY 2020-21 and AY 2021-22, and three coaches in AY 2022-23.⁸⁵
- iv. University of Virginia's Men's and Women's Swimming and Diving program, where Mr. Robinson was a volunteer swimming coach, hired five coaches in AY 2019-20 and six in the other years of the proposed Class period.⁸⁶

The variation in the number of paid coaches hired for a given program over time indicates that a program's coaching hiring decision in one year is not necessarily predictive of its hiring decision in another year.

C. Whether a Proposed Class Member Would Have Been Hired for a Paid Coaching Position Depends on School-, Sport-, Program-, and Coach-Specific Factors and Information

- 77. Empirical evidence and economic principles suggest that not every proposed Class member would have been hired for one of the additional paid coaching positions that might have been created in the but-for world. Further, determining whether each proposed Class member would have been hired for a paid position in the but-for world would depend on program- and coach-specific factors. Thus, determining whether each proposed Class member was injured would depend on information about each program and each coach.
- 78. Empirical evidence shows that not every additional paid coaching position created after the bylaws were changed was filled by a former volunteer coach. For example, as Dr. Rascher shows in Exhibit 1 of his report and as reflected in the underlying data, of the 101 Baseball

⁸⁴ See backup materials.

⁸⁵ See backup materials.

⁸⁶ See backup materials.

coaches hired for paid coaching positions added in AY 2023-24, 42 percent were not Division I volunteer coaches in the previous year.⁸⁷ The fact that not all of those additional paid positions were filled by volunteer coaches suggests that Plaintiffs' assumption that all or nearly all proposed Class members would have been hired for a paid position in the but-for world may not be correct.

79. In particular, evidence in the record demonstrates that some programs that replaced a volunteer position with a paid one in AY 2023-24 did not hire their former volunteer coach who had applied for the position. For example, Ms. Taylor, a former volunteer Women's Softball coach at San Jose State University, testified that she applied to a paid position at that program in the summer of 2024, but was not hired for that job.⁸⁸
80. Additionally, some programs hired coaches with greater skills or experience than their former volunteer coaches for additional paid positions in AY 2023-24. For example:
 - i. Mr. Smart, who was a volunteer Baseball coach at the University of Arkansas, was not considered to be as qualified as Bobby Wernes, who was hired for an additional paid assistant Baseball coach position in AY 2023-24.⁸⁹
 - ii. Texas Christian University hired Dave Lawn as a third paid Baseball assistant coach in AY 2023-24.⁹⁰ Mr. Lawn has more than 35 years of coaching experience and has worked as a paid assistant coach in Division I schools since 2014.⁹¹ In

⁸⁷ See backup materials.

⁸⁸ Taylor Deposition, 241:10-242:11 ("Q. So you applied – formally applied for an assistant coach position in softball at San Jose State University this summer, correct? A. Yes. Q. And were you aware that the two assistant coaches that had been hired for the 2023-2024 season [...] had left San Jose State? A. I was aware, yes. [...] Q. And you did not get the San Jose State job for the 2024-2025 season, correct? A. No.").

⁸⁹ Hamilton Declaration, ¶ 12 ("I am informed that Taylor Smart communicated he was available for and interested in a position as an assistant Baseball coach for the 2023-2024 academic year when the NCAA's Division I membership voted to eliminate the volunteer coach position and increased the number of paid coaching positions permitted in a number of Division I sports, including Baseball. However, the University did not hire Mr. Smart given that another individual, Bobby Wernes, was deemed to be the more qualified and preferred candidate for the position.").

⁹⁰ "Texas Christian University data on coaches," SMART_SCHLS_0000003277-3279.

⁹¹ Texas Christian University Athletics, "Dave Lawn," *available at* gofogs.com/sports/baseball/roster/coaches/dave-lawn/1404 ("Lawn made his way to Fort Worth after spending

contrast, Kyle Winkler, the program's volunteer coach in AY 2022-23, had only two years of experience as a paid assistant coach at a Division I school prior to taking the volunteer coach role.⁹²

- iii. Stephen F. Austin State University hired Rusty Pendergrass in AY 2023-24 as a third paid Baseball assistant coach, a position that also required the duties of a recruiting coordinator.⁹³ Mr. Pendergrass had 23 years of experience as a Major League Baseball scout.⁹⁴ In contrast, Richie Villanueva, the program's volunteer in AY 2022-23, only had experience coaching Baseball at the community college and high school levels prior to joining Stephen F. Austin State University as a volunteer coach.⁹⁵

eight years at Arizona. In his time with the Wildcats, he worked under two head coaches, serving as the associate head coach for his last two seasons in the program. A veteran coach among the college ranks, Lawn has 38 years of coaching experience dating back to his first job as the pitching coach at Contra Costa College in 1986. He spent two seasons with the Comets before moving on to be the graduate assistant at Nevada in 1988. He spent two seasons with the Wolf Pack and before heading to Cal. Lawn went on to spend 10 seasons at Cal (1991-00), seven at USC (2001-07) and two more at Nevada (2014-15). Additionally, Lawn spent part of the 2013 season as Director of Player Development at Cal State Fullerton. He made his way to Tucson and the Wildcats in 2015.”).

⁹² Texas Christian University Athletics, “Kyle Winkler,” *available at* gofrogs.com/sports/baseball/roster/coaches/kyle-winkler/1007 (“Former TCU baseball player Kyle Winkler returned to campus in the Fall of 2022 as the volunteer assistant. He will transition to the role of Director of Player Development in the Fall of 2023. This marks Winkler’s second stint on the coaching staff. He served as a student assistant for the 2019 campaign while completing his undergraduate degree. Winkler returned to campus to after spending two seasons as the pitching coach at Incarnate Word.”); “Texas Christian University data on coaches,” SMART_SCHLS_0000003277-3279.

⁹³ “Stephen F. Austin State University data on coaches,” SMART_SCHLS_0000003724.

⁹⁴ Stephen F. Austin State University Athletics, “Rusty Pendergrass,” *available at* sfajacks.com/sports/baseball/roster/coaches/rusty-pendergrass/952 (“Rusty Pendergrass is entering his first year at Stephen F. Austin as an assistant coach and recruiting coordinator. Rusty spent 23 years as an MLB scout for the Houston Astros and the Arizona Diamondbacks. He has signed 13 major leaguers and is credited with scouting Hunter Pence and Ben Zobrist. In 2005 he was on staff when the Astros won the National League championship. Rusty is a member of the Texas Scouts Association Hall of Fame.”).

⁹⁵ Stephen F. Austin State University Athletics, “Richie Villanueva,” *available at* sfajacks.com/sports/baseball/roster/coaches/richie-villanueva/855 (“Richie enters his first year here on staff for the Jacks as an assistant coach. He is currently in charge of the pitchers. Richie spent three years at Pratt Community College in the Jayhawk Conference where he coached three all-conference pitchers and sent 10 to the next level. During his playing days Richie was a part of a Nationally Ranked Riverland Team.”); “Stephen F. Austin State University data on coaches,” SMART_SCHLS_0000003724.

iv. Pepperdine University Women's Tennis program hired Jaan Kononov as a third paid coach in AY 2023-24.⁹⁶ Jaan Kononov had two years of experience as a graduate assistant coach at Grand Canyon University, two years of experience as a volunteer coach at Pepperdine University, and one year of experience as a paid assistant coach for the University of Minnesota before he rejoined Pepperdine University as a paid assistant coach.⁹⁷ In contrast, Shiori Fukuda, the program's volunteer coach in AY 2022-23, did not have any prior coaching experience.⁹⁸

81. Economic principles suggest several potential reasons why a proposed Class member may not have been hired for an additional paid position in the but-for world.
82. *First*, basic labor economic theory indicates that increasing compensation for coaching positions would increase the amount of competition for those positions.⁹⁹ In models of labor demand and supply, when compensation for a job increases, more candidates would be willing to apply for the position.¹⁰⁰ Consistent with this economic theory, Mr. Smart testified

⁹⁶ "Pepperdine University data on coaches," COLON_SCHLS_0000000051.

⁹⁷ Pepperdine University Athletics, "Jann Kononov," *available at* pepperdinewaves.com/sports/womens-tennis/roster/coaches/jaan-kononov/553 ("Jaan Kononov makes his return to Pepperdine as a women's tennis assistant coach in fall 2023. Kononov, who was a volunteer assistant coach from 2019-22, comes to Malibu after spending a year as an assistant coach at Minnesota last season. [...] Prior to his time at Pepperdine, Kononov was a graduate assistant at Grand Canyon[.]").

⁹⁸ Pepperdine University Athletics, "Shiori Fukuda," *available at* pepperdinewaves.com/sports/womens-tennis/roster/coaches/shiori-fukuda/653 ("Shiori Fukuda, a Pepperdine alum and a 2022 ITA Singles All-American, begins her first season as the women's tennis volunteer assistant coach in 2023."); "Pepperdine University data on coaches," COLON_SCHLS_0000000051.

⁹⁹ George J. Borjas, *Labor Economics*, McGraw Hill, 2020, p. 116 ("Once the government sets the wage floor at \bar{w} , [higher than the equilibrium,] firms move up the labor demand curve and employment falls to \bar{E} . As a result of the minimum wage, therefore, some workers ($E^* - \bar{E}$) are displaced from their current jobs and become unemployed. In addition, the higher wage encourages additional persons to enter the labor market.").

¹⁰⁰ George J. Borjas, *Labor Economics*, McGraw Hill, 2020, p. 3 ("For example, 20,000 workers are willing to supply their services to engineering firms if the engineering wage is \$40,000 per year. If the engineering wage rises to \$50,000, then 30,000 workers will choose to be engineers. In other words, as the engineering wage rises, more persons will decide that the engineering profession is a worthwhile pursuit. More generally, the labor supply curve relates the number of person-hours supplied to the economy to the wage that is being offered. The higher the wage that is being offered, the larger the labor supplied."); Deposition of Daniel Rascher, Ph.D., *Taylor Smart, et al. v. NCAA, 22-cv-02125-WBS-CSK*; and *Shannon Ray, et al v. NCAA, 23-cv-00425-WBS-CSK*, December 9, 2024 ("Rascher Deposition"), 113:14-23 ("Q. As an economist, all else equal, would you expect more qualified workers to be interested in providing labor at a salary than at no salary? [...] A.] As I said, it depends on what else is happening in the labor market. But assuming we're in sort of a textbook, econ 101, then higher pay will tend to, you know, increase the labor supply.").

that if any job were paid, there would be “more competition” for that position.¹⁰¹ Given the limited number of additional coaching positions, that increase in competition would result in some proposed Class members not being hired for the additional paid position in the but-for world. Such increased competition would come from different groups of individuals, including both from in and outside the proposed Class.

83. Some Division I volunteer coaches may have been interested in applying to additional paid positions at other programs if the program at which they were a volunteer would have continued to hire volunteers instead of making the position a paid one. Moreover, to the extent that some prospective Division I coaches were unwilling or unable to serve as volunteers because they needed to earn income or were able to earn income from coaching positions outside of Division I, they would have been more likely to apply for the additional paid coaching positions in the but-for world.¹⁰²
84. Additionally, some Division I paid coaches may have been interested in additional paid positions in the but-for world at other programs that offered higher salaries or were at more prestigious programs.¹⁰³ Dr. Ashenfelter estimates that some programs would have paid but-for world salaries for additional paid positions that are higher than the actual AY 2023-24 salaries of paid assistant coaches at other programs in the same state. For example, his model

¹⁰¹ Smart Deposition, 140:16-141:2 (“Q. [...] If the coaching position that you got at Arkansas had been paid, do you think that there would have been more interest in that position? A. [...] I think if you put a compensation amount of zero [sic] to whatever, you know, the job calls for, I think you’re always going to have more competition and demand for any sort of job in the world.”).

¹⁰² Deposition of Orley Ashenfelter, Ph.D., *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, December 5, 2024 (“Ashenfelter Deposition”), 173:13-25 (“Q. [...] As an economist, would it be your expectation that some coaches would – who would not have been interested in a volunteer coach position but would be interested in a paid coach position? [...] A. That’s possible. Q. And, as an economist, what would be some of the economic reasons for that? A. Usually people prefer jobs that pay more.”).

¹⁰³ Ashenfelter Deposition, 173:13-25 (“Q. [...] As an economist, would it be your expectation that some coaches would – who would not have been interested in a volunteer coach position but would be interested in a paid coach position? [...] A. That’s possible. Q. And, as an economist, what would be some of the economic reasons for that? A. Usually people prefer jobs that pay more.”); 180:18-181:6 (“Q. Okay. Holding everything else constant, as an economist, you would expect that if someone could earn more as the last paid volleyball coach at one school, they would be more interested in that position than being the second highest paid coach at another school at a lower salary, right? [...] A. Everything else the same, [...] I think they would prefer the higher salary.”); Rascher Deposition 127:5-12 (“Q. Well, in fact, some coaches who were first or second paid assistants at one school became the third paid assistant at another school after the bylaws were amended; right? [...] [A.] “I believe that was true. I think it was a small number of folks, yeah.”).

estimates that the but-for salary of the additional paid Women's Volleyball coach at the University of Illinois, Champaign would have been approximately \$45,500, which is [REDACTED] higher than the actual salary of the *second* lowest-paid coach at Illinois State University in AY 2023-24 (approximately \$[REDACTED]).¹⁰⁴ Similarly, Dr. Ashenfelter estimates that the but-for salary of the additional paid coach in Women's Softball, the sport coached by Ms. Taylor and Ms. Sebbane, at the University of Mississippi would be approximately \$62,000, [REDACTED] higher than the actual salary of the *second* lowest-paid coach at the University of Southern Mississippi approximately ([REDACTED]).¹⁰⁵ Therefore, taking Dr. Ashenfelter's model as given, volunteer coaches at Florida State University and the University of Mississippi may have faced competition from the second lowest-paid coaches at Florida Gulf Coast University and the University of Southern Mississippi for the additional paid positions in the but-for world.

85. *Second*, labor economics theory predicts that higher compensation for coaching positions would have not only attracted more candidates for the positions, but also likely attracted candidates with greater experience and qualifications than those who were interested in volunteer positions.¹⁰⁶ Consistent with the theory, evidence described in paragraph 80 shows that some of the coaches who applied to the additional paid positions and were hired had more experience and skills than former volunteer coaches at the same program. Proposed Class members thus would have faced greater competition for paid positions from more qualified applicants outside the proposed Class, which would have further affected proposed

¹⁰⁴ See backup materials for **Exhibit 10**. [REDACTED] percent.

¹⁰⁵ See backup materials for **Exhibit 10**. [REDACTED] percent.

¹⁰⁶ George J. Borjas, *Labor Economics*, McGraw Hill, 2020 pp. 487-488 (“[F]irms paying efficiency wages might get a select pool of workers. Consider a firm offering the low competitive wage. Only workers who have reservation wages below this wage will accept job offers from this firm. High-ability workers will tend to have higher reservation wages and, hence, will reject job offers from this firm. [...] A firm that pays efficiency wages attracts a more qualified pool of workers, increasing the productivity and profits of the firm.”).

Class members' ability to be hired for those positions.^{107,108} This is consistent with evidence that shows that some of the Named Plaintiffs who applied to paid positions, both before and after the bylaws changed, were not hired to be paid coaches at the collegiate level, including by NCAA Division I programs.¹⁰⁹

86. The effect of the increase in competition, both in terms of quantity and quality, on the likelihood that a volunteer coach would be hired for an additional paid position will vary across the proposed Class because the pool of potential applicants for additional paid positions is likely to differ on a position-by-position basis. This is because the number of

¹⁰⁷ Edward P. Lazear, Kathryn L. Shaw, and Christopher T. Stanton, "Who Gets Hired? The Importance of Competition Among Applications," *Journal of Labor Economics*, Vol. 36, No. S1, 2018, pp. S133-S181, at p. S135 ("The probability of obtaining a job and the job to which a worker is assigned depends on the quality of the competition. Because firms are slot constrained, a worker remains unemployed when other applicants for a job have superior qualifications.").

¹⁰⁸ If in the longer term—as Dr. Ashenfelter and Dr. Rascher argue—the market adjusts to a new equilibrium, and NCAA member schools are able to better adjust their hiring processes to the bylaw change (e.g., by having more time), those paid positions are likely to attract a greater number of more talented applicants who would have more time and more information to apply, further decreasing the proposed Class members' chance of getting hired for an additional paid coaching position. See Ashenfelter Report, ¶ 48 ("Because of the complexity in changing university budgets, and potentially complicated hiring rules that govern universities, many NCAA member schools may not have had time to react to the NCAA's 2023 rule change eliminating compensation restrictions in time for the 2023-24 academic year."); Rascher Report, ¶ 149 ("[I]t is my opinion that it will be several years before the baseball assistant coach market reaches equilibrium. [...] [E]ventually as competition does play out, more schools will build a payment to the third assistant coach into the budget.").

¹⁰⁹ Amended Plaintiffs' Objections and Responses to Defendant's Second Set of Interrogatories, *Joseph Colon, et al. v. NCAA, 23-cv-00425 WBS KJN*, August 27, 2024, pp. 10-11 ("Interrogatory No. 6: For each of [you] individually, identify all paid sports-related positions to which [you] applied and the compensation for those positions. Response: [...] Mr. Robinson applied for the following positions: to the University of Santa Barbara to serve as a swimming coach where the salary was \$45,000 per year."); pp. 12-13 ("Interrogatory No. 7: For each of [you] individually, identify all paid sports-related positions [you] were offered and the compensation [you] were offered. Response: [...] Mr. Robinson was offered the positions at Waterloo and Splash Swimming[.]"); Plaintiff Taylor's Second Amended Objections and Responses to Defendant's Second Set of Interrogatories, *Joseph Colon, et al. v. NCAA, 23-cv-00425 WBS KJN*, October 23, 2024, pp. 3-4 ("Interrogatory No. 6: For each of [you] individually, identify all paid sports-related positions to which [you] applied and the compensation for those positions. Response: [...] Ms. Taylor applied for the following softball coaching positions: University of San Diego, University of California San Diego, University of Arizona, University of Oregon, University of Utah, [...], Academy of Art University, University of California Riverside, Louisiana State University, and California State University San Marcos. [...] Amended: Ms. Taylor also applied to California State Fullerton, Loyola Marymount, San Diego State University, Stanford, San Jose State University, St. Mary's College of California, and Bishop O'Dowd High School."); Amended Plaintiffs' Objections and Responses to Defendant's Second Set of Interrogatories, *Joseph Colon, et al. v. NCAA, 23-cv-00425 WBS KJN*, August 27, 2024, pp. 12-13 ("Interrogatory No. 7: For each of [you] individually, identify all paid sports-related positions [you] were offered and the compensation [you] were offered. Response: [...] In 2023-2024, Ms. Taylor was offered the Head Coaching Position of the 16u and 18u Travel Softball Team 510 Pride Fastpitch. This position paid a variable rate between approximately \$1,200-\$2,000 per month.").

candidates applying for a given position will vary from position-to-position, as would the qualifications of each proposed Class member relative to other applicants for that position. Moreover, according to matching models in labor economics, different employers value and demand different combinations of skills and experience.¹¹⁰ Indeed, Mr. Hacker testified that factors such as a coach's experience as a coach or as a professional baseball player could determine whether a coach would be qualified for a paid position, but that different head coaches might appreciate such factors differently.¹¹¹ In addition, Mr. Barajas testified that alignment on coaching philosophy could be important in deciding who to hire.¹¹² As a result, whether a particular proposed Class member would be hired by a particular program depends

¹¹⁰ See, e.g., Jacob Mincer, "Investment in Human Capital and Personal Income Distribution," *Journal of Political Economy*, Vol. 66, No. 4, August 1958, pp. 281-302, p. 287 ("However, the productive efficiency or quality of performance on the job is a function of formal training plus experience."). See also Robert Gibbons and Michael Waldman, "Task-Specific Human Capital," *American Economic Review*, Vol. 94, No. 2, 2004, pp. 203-207, p. 203 ("[S]ome of the human capital an individual acquires on the job is specific to the tasks being performed, as opposed to being specific to the firm."); Edward P. Lazear, "Firm-Specific Human Capital: A Skill-Weights Approach," *Journal of Political Economy*, Vol. 117, No. 5, October 2009, pp. 914-940, p. 915 ("Suppose that there are a variety of skills used on each job, and suppose that each of these skills is general in the sense that it is used at other firms as well. The difference, however, is that firms vary in their weighting of the different skills.").

¹¹¹ Smart Deposition, 131:7-134:24 ("Q. [...] You testified that you wouldn't necessarily say that because a coach has more experience that they should be paid more; right? A. Correct. Q. And that's because there's a lot of different factors that go into how much a coach should be paid? [...] A.] Yes. [Q. ...] And one of the factors in how much a coach should be paid is the experience that coach has? [...] A.] I think experience plays a part but it doesn't mean everything. [Q. ...] Right. And another one of the factors in how much a coach should be paid is how good a coach they are; right? A. I think that's another fair estimate. Q. Another factor in how much coaches should be paid is whether that coach brings a skill set that the team needs; right? A. I'd say that's accurate. Q. And how much a coach should be paid depends upon how much the head coach might value the particular skills that that coach brings? [...] A.] Yes. [Q. ...] And in your experience different head coaches value different kinds of skills; right? [...] A.] Yes. [Q. ...] Different kinds of head coaches prefer to work with coaches with different kinds of approaches to coaching; right? [...] A.] [...] I think every coach has their own opinion on what they value more than another one, so it's completely up to that specific coach. [Q. ...] Right. The coach that a coach – head coach wants to hire is something that is up to that head coach based on their personal preferences; right? [...] A.] Yes. [Q. ...] And in order to understand what a particular head coach values in an assistant coach, you'd have to ask that coach; right? [...] A.] I think that's fair. [...] Q.] A head coach who sees two different coaches with similar experiences might prefer one coach over the other? [...] A.] I think that's fair. [Q. ...] A head coach who sees two different coaches with different experience might think that one coach will be more valuable than the other because of other factors; right? [...] A.] Yeah. I mean, I think that's up to the coach to decide and [...]. [Q. ...] And so two coaches with the same set of experiences and skills might be paid different amounts because the coach could value their services differently; right? [...] A.] I think that's fair."); Barajas Deposition, 111:4-13 ("Q. Would alignment on coaching philosophy be something you would want to consider in hiring a coach? A. I think knowledge is important. Q. Sure. But is alignment on coaching philosophy also something that could be important in deciding who to hire? [...] A. Yes.").

¹¹² Barajas Deposition, 111:8-13 ("Q. [...] Is alignment on coaching philosophy also something that could be important in deciding who to hire? [...] A. Yes.").

both on the amount and type of human capital they and other applicants have, and the value that program places on that human capital.¹¹³

87. This variation could be particularly pronounced in sports that require coaching many different skills. For example, both Track and Field and Swimming & Diving involve different types of events. Track and Field involves sprints, jumping events, throwing events and long-distance running events. Swimming involves different strokes. Coaches in such sports who focus on one type of event or skills might face different levels of competition for their positions and different programs might have different demand for coaches who specialize in different events in these sports.
88. Further, for many different reasons, additional applicants might have found some positions more attractive than others, creating different levels of competition for volunteers in each position. Dr. Ashenfelter estimates that additional paid positions in the but-for world would offer a wide range of salaries. For example, his model predicts that additional positions in Women's Softball would pay between \$3,000 at California State University, Fullerton and \$77,000 at the University of Michigan.¹¹⁴ In addition, academic literature on the determinants of job mobility shows that individuals also consider a wide array of non-wage job characteristics when deciding to apply for a job, which may be valued differently by different individuals.¹¹⁵ One example of such characteristics is the location of the job. Some positions in some locations or at some schools may have been more attractive than others to additional applicants. For example, Ms. Sebbane chose a volunteer position at the University of Pittsburgh, which is in the Atlantic Coast Conference, over a paid assistant coach position at

¹¹³ See, e.g., Paul Oyer and Scott Schaefer, "Personnel Economics: Hiring and Incentives," *Handbook of Labor Economics*, Vol. 4b, edited by Orley Ashenfelter and David Card, Elsevier B. V., 2011, p. 1784 ("Job seekers have varying levels of aptitude, skill, and motivation, and firms have varying needs for these attributes.").

¹¹⁴ See backup materials for **Exhibit 10**.

¹¹⁵ Paul Sullivan and Ted To, "Search and Nonwage Job Characteristics," *The Journal of Human Resources*, Vol. 49, No. 2, Spring 2014, pp. 472-507, at p. 472 ("Nonwage job characteristics are important determinants of job mobility and choice. Important nonwage job characteristics include employer provided health insurance (Gruber and Madrian 2004), employer provided retirement benefits, flexible hours (Altonji and Paxson 1992), paid vacation, occupational choice (Goddeeris 1988), risk of injury or death (Thaler and Rosen 1975), commuting time (White 1988), onsite amenities, or a whole host of other, possibly intangible or heterogeneously valued, job characteristics.").

Dartmouth College (also a Division I institution, but in the Ivy League) because of what she perceived to be the benefits of coaching at a school in a major athletic conference.¹¹⁶

89. *Third*, the supply of volunteer coaches might have varied across schools and programs because some proposed Class members may not have been interested in or able to work in paid positions in the but-for world. This is because, as predicted by economics,¹¹⁷ some programs that paid their coaches rather than relying on volunteer work would be able to demand more from their additional paid coaches compared to their volunteer coaches, which could be impractical for the proposed Class members. For example, some volunteer coaching positions did not require regular attendance or travel to away games or competitions. Ms. Lynda Tealer, the former deputy athletic director at the University of Florida, testified that Billy Horschel, a volunteer coach for Men's Golf at the University of Florida, and a professional golfer, had a "spotty" presence as a volunteer coach.¹¹⁸ Larry Bercutt, the volunteer Women's Water Polo coach at the University of California, Davis, is a local doctor who "comes to practice as it fits with his schedule" (between two to four times a week) and "does not travel with the team unless occasionally for local games when his schedule permits."¹¹⁹ Similarly, at Arizona State University, volunteer coaches "were not required to attend all practices or travel with the team; they could just show up and assist as their

¹¹⁶ Sebbane Deposition, 62:16-20 ("Q. Why did you end up choosing the Pittsburgh position? A. Multiple reasons. Opportunity to coach in the ACC. University of Pittsburgh is right up the road. And she offered me first.").

¹¹⁷ Elka Torpey, "Same Occupation, Different Pay: How Wages Vary," *U.S. Bureau of Labor Statistics*, May 2015, available at www.bls.gov/careeroutlook/2015/article/wage-differences.htm ("Jobs for a specific occupation often have similar position descriptions, but individual tasks may vary. And jobs involving more complex tasks or greater responsibility may have higher wages than those that don't, even within the same company.").

¹¹⁸ Deposition of Lynda Tealer, Senior Vice President for Championships for Divisions I, II, III, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Joseph Colon, et al v. NCAA*, 1:23-cv-00425-WBS-KJN, October 10, 2024 ("Tealer Deposition"), 207:2-13 ("Q. Okay. So men's and women's golf, if I understand your testimony, didn't have a tradition of having a volunteer coach, so they didn't pursue having an Assistant Coach 1 after July 1, 2023? Is that a fair statement? A. They didn't have the tradition of having a volunteer coach that was around or something in a – was consistent. So, for example, Billy Horschel at one point was the men's golf volunteer coach. And his presence was spotty. And so men's and women's golf didn't have a position like – or didn't utilize the position like other sports did.").

¹¹⁹ Flushman Declaration, ¶ 12 ("For example, Larry Bercutt was a volunteer coach with Women's Water Polo. He is a doctor in town and has been training with the water polo team as the goalie coach. He comes to practices as it fits with his schedule. It can be anywhere from two to four times a week. He does not travel with the team unless occasionally for local games when his schedule permits. He attends as many home games as he can. He continues in this role as an unpaid coach today.").

schedules allowed.”¹²⁰ For example, the former professional golfer (Mr. Twitty) and the former NHL hockey player (Mr. Lack) who served as volunteer coaches at Arizona State University attended only certain practices and rarely traveled for games.¹²¹ A program might not have chosen to pay a coach to do limited work of this kind.

90. Paid positions would have likely entailed longer hours, less flexibility, and more or broader responsibilities compared to the volunteer positions,¹²² so volunteers like Ms. Ray or Ms. Ledesky who took the volunteer position to focus on their own training, or like Mr. Horschel or Dr. Bercutt who had other careers while volunteering, would not have applied to the paid positions in the but-for world. Indeed, the requirements of the paid positions would have likely been incompatible with the benefits sought after by some members of the proposed Class.¹²³ For example, although Arizona State University added an additional paid assistant Men’s Ice Hockey coach since the changes in the bylaws, it hired someone other than Mr. Lack (the former NHL player) because the new position is “now a full-time paid

¹²⁰ Wombacher Declaration, ¶ 19 (At Arizona State University, “[s]ome volunteer coaches were not offered or did not want paid assistant coach positions due to the lack of flexibility in being a paid coach. As a volunteer coach, they were not required to attend all practices or travel with the team; they could just show up and assist as their schedules allowed.”). The same was true for certain volunteer coaches at Fresno State. See Acunto Declaration, ¶ 9 (“A volunteer coach sometimes helped at practice and home games and didn’t travel to away games. [...] The tasks were contingent upon the volunteer’s availability as some were retired, some had part-time jobs or contract work, etc.”).

¹²¹ Wombacher Declaration, ¶ 13 (“For example, Howard Twitty was the volunteer coach for the Men’s Golf team from 2018 to 2023, and he continues to volunteer as an unpaid assistant for that team. Howard Twitty is a retired professional golfer. He was a professional golfer for more than 35 years and a competitor on the PGA Tour for a period of time. He volunteers to work with players to improve their short game. He also travels once or twice a year to tournaments with the Men’s Golf team at his own expense. Mr. Twitty attends practice two to three times per week for approximately one to two hours at a time.”), Wombacher Declaration ¶ 14 (“Another example is Eddie Lack. Eddie Lack was a volunteer coach for men’s ice hockey from 2019 to 2023. Mr. Lack was a professional hockey player in the NHL for many years. During his time as a volunteer coach, he worked specifically with the team’s goalies, providing them with one-on-one coaching. Mr. Lack attended practice twice per week and travelled with the team occasionally, approximately 10% of the time. He attended most games when he was available. He was simultaneously working as a real estate agent while a volunteer coach.”).

¹²² Varley Declaration, ¶ 15 (“Volunteer coaches have fulfilled different roles on different teams. For example, in baseball, volunteer coach Devin Mesoraco is a former Major League Baseball player who wanted to contribute his experience and talent, but also wanted to spend time with his family.” As such, while volunteering Mesoraco had significantly fewer responsibilities significantly fewer responsibilities than full-time assistant coaches. While volunteering, Mesoraco worked with the Department’s baseball team on a periodic basis and he traveled for games at his discretion, unlike the team’s paid assistant coaches.”).

¹²³ See, e.g., Wombacher Declaration, ¶ 19 (“Some volunteer coaches [at Arizona State University] were not offered or did not want paid assistant coach positions due to the lack of flexibility in being a paid coach.”).

position with different responsibilities [from Mr. Lack’s volunteer work], including recruitment responsibilities.”¹²⁴ And Dr. Bercutt and Mr. Twitty have continued to coach at their institutions on an unpaid basis, with fewer coaching responsibilities than full-time paid coaches, following the changes in the bylaws.¹²⁵ Evidence that Ms. Ray, Mr. Barajas, and Mr. Hacker never applied to a full-time paid coaching position is consistent with the conclusion that some volunteers may not have been interested in a paid coaching position.¹²⁶ Whether a particular volunteer would have been interested in a paid coaching position will depend on how the volunteer position would have compared to a paid position at each school and each volunteer’s need for or interest in other activities while working as a coach.

D. Damages, If Any, to Proposed Class Members Depend on School-, Sport-, Program- and Coach-Specific Factors and Cannot Be Determined with a Common Method

91. Economic principles and empirical evidence suggest common evidence cannot be used to determine the extent to which those proposed Class members who would have been hired for a paid position in the but-for world would have been better off than they were in the actual

¹²⁴ Wombacher Declaration, ¶19 (“[...] Men’s Ice Hockey did not hire former professional hockey player and volunteer coach Eddie Lack. Instead, Men’s Ice Hockey hired Albert O’Connell and Dana Borges for the 2023-2024 season (one coach replaced Mike Field when he departed), given it was now a full-time paid coaching position with different responsibilities, including recruitment responsibilities.”).

¹²⁵ See Flushman Declaration, ¶ 12 (“For example, Larry Bercutt was a volunteer coach with Women’s Water Polo. He is a doctor in town and has been training with the water polo team as the goalie coach. He comes to practices as it fits with his schedule. It can be anywhere from two to four times a week. He does not travel with the team unless occasionally for local games when his schedule permits. He attends as many home games as he can. He continues in this role as an unpaid coach today.”); Wombacher Declaration, ¶ 13 (“For example, Howard Twitty was the volunteer coach for the Men’s Golf team from 2018 to 2023, and he continues to volunteer as an unpaid assistant for that team. Howard Twitty is a retired professional golfer. He was a professional golfer for more than 35 years and a competitor on the PGA Tour for a period of time. He volunteers to work with players to improve their short game. He also travels once or twice a year to tournaments with the Men’s Golf team at his own expense. Mr. Twitty attends practice two to three times per week for approximately one to two hours at a time.”).

¹²⁶ Ray Deposition, 121:4-14 (“Q. Have you ever applied for any other coaching jobs other than the volunteer coach job at Arizona State? A. No. [...] Q. Did you ever ask to be considered as a paid assistant coach at Arizona State? A. No.”); Barajas Deposition, 38:20-23 (“Q. Have you ever applied to be a full-time paid volleyball coach at any college or university at any level? A. No.”); Deposition of Michael Hacker, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK; and Joseph Colon, *et al v. NCAA*, 23-cv-00425-WBS-CSK, October 8, 2024 (“Hacker Deposition”), 121:7-13 (“Q. Have you ever applied for any full-time paid coaching position? A. Full-time paid coaching position... I don’t – full-time paid coaching position at any level? Q. Yes. A. I don’t think so.”).

world. The benefits to each coach in the but-for world and the actual world depend on factors that vary on a school-by-school, sport-by-sport, program-by-program, and coach-by-coach basis. As a result, calculating damages, if any, to each proposed Class member depends on information specific to each school, sport, program, and coach.

i. Compensation for Assistant Coaches Varies Widely Based on School-, Sport-, Program-, and Coach-Specific Factors

92. Basic models of wage determination in labor economics suggest that coach compensation is a function of a broad range of individualized factors such as “the sport, the school, the division,” and “the location,” as Ms. Ray testified.¹²⁷ The wide variation in salaries within the same sport and even at the same school confirms that this is the case.
93. *First*, the compensation for assistant coaches in the same sport and at the same school was not always stable during the proposed Class period, due to coach- and program-specific factors. For example, Portland State University’s lowest-paid assistant Women’s Softball coach, [REDACTED], worked half-time between 2019 and 2022.¹²⁸ After she left the program in June 2022, she was replaced by [REDACTED], who worked full time and was paid [REDACTED] Ms. Rodriguez’s 2022 salary.¹²⁹ The difference in salaries reflect different

¹²⁷ Ray Deposition, 187:16-191:6 (“Q. And so you think it would be fair to potentially pay coaches more in Arizona, where it’s more expensive to live, than you would pay coaches in Louisiana, where it’s less expensive to live? [... A.] [...] It could vary – like I said, it could vary on numerous amount (sic) of things. We can – the sport, the school, the division. I feel like it varies, so I can’t give you an exact number. Q. The amount that a volunteer coach should have been paid could vary based on the sport? [...] A. It could vary on numerous amount (sic) of things. Q. What things other than the sport, the school, the division and the location? [...] [W]hat factors [do] you think would go into assessing that other than what you’ve testified, which is the location of the job, the sport, the school, and the division? [...] A. So I said the location, the school, the division, and I’ll say et cetera, because it varies.”). See also Smart Deposition, 131:16-19 (“Q. There’s a lot of different factors that go into how much a coach should be paid? [...] A. Yes.”).

¹²⁸ [REDACTED] had a Full-Time Equivalent (FTE) value of 0.46 in 2019 and 2020, and of 0.5 in 2021 and 2022. See “Portland State University data on coaches,” COLON_SCHLS_0000001776; Ashenfelter’s countable coach limits (NCAA_restrictions.xlsx); Ashenfelter’s data from MFRS (analysis_ncaa.dta); Ashenfelter’s data from schools (analysis_college.dta and analysis_volunteer.dta).

¹²⁹ “Portland State University data on coaches,” COLON_SCHLS_0000001776; Ashenfelter’s countable coach limits (NCAA_restrictions.xlsx); Ashenfelter’s data from MFRS (analysis_ncaa.dta); Ashenfelter’s data from schools (analysis_college.dta and analysis_volunteer.dta). [REDACTED] was paid [REDACTED] in 2022. [REDACTED] was paid [REDACTED] in 2022. $\$38,700/\$21,928 = 1.76$.

work schedules, which may reflect coaches' preferences and/or changes in Portland State University's Women's Softball program's coaching needs.

94. Another example is the Women's Softball program at the University of Louisiana at Lafayette. The program's second lowest-paid coach in AY 2019-20 and 2020-21, Michael Roberts, had the title of "associate coach."¹³⁰ He was described by the program as an "accomplished pitcher" who "enjoyed Pac-12 success."¹³¹ He earned [REDACTED] per year.¹³² In AY 2021-22, he was replaced by [REDACTED], who had the title of [REDACTED] at a [REDACTED] salary of [REDACTED].¹³³ [REDACTED] had no prior Division I assistant coaching experience.¹³⁴ At the same time, the previously lowest-paid coach [REDACTED], was given a salary increase from [REDACTED] following Mr. Roberts' departure, [REDACTED].¹³⁵

¹³⁰ "University of Louisiana at Lafayette data on coaches," COLON_SCHLS_0000000285; Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from MFRS (analysis_ncaa.dta); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta).

¹³¹ Louisiana Ragin' Cajuns, "Mike Roberts Named @RaginCajunsSB Associate Head Coach," August 6, 2018, *available at* ragincajuns.com/news/2018/8/6/softball-mike-roberts-named-ragincajunssb-associate-head-coach ("An accomplished pitcher in his own right, the Auckland, New Zealand native won two ASA national titles, an ISF Junior World Title, eight New Zealand national championships, an NAFA Triple-A North American crown and an Australian state title. Roberts twice earned ASA and NAFA All-America honors and won numerous U.S. and New Zealand MVP awards. [...] Roberts also enjoyed Pac-12 success at Oregon, serving as pitching coach in 2014. He helped the Ducks to a 56-9-1 overall record, a 20-3-1 Pac-12 mark and the conference title.").

¹³² "University of Louisiana at Lafayette data on coaches," COLON_SCHLS_0000000285; Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from MFRS (analysis_ncaa.dta); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta).

¹³³ "University of Louisiana at Lafayette data on coaches," COLON_SCHLS_0000000285; Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from MFRS (analysis_ncaa.dta); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta).

¹³⁴ Louisiana Ragin' Cajuns, [REDACTED]

¹³⁵ "University of Louisiana at Lafayette data on coaches," COLON_SCHLS_0000000285; Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from MFRS (analysis_ncaa.dta); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta).

95. *Second*, in AY 2023-24, the compensation of coaches hired for additional paid positions varied significantly (i) across different programs at the same school,¹³⁶ and (ii) across different programs in the same sport, even in the same conference. For example, the lowest-paid Women's Volleyball coach at the University of North Carolina, Chapel Hill ("UNC"), was paid [REDACTED] in AY 2023-24, while her counterpart at the University of Pittsburgh was paid nearly double—[REDACTED].¹³⁷ Both programs compete in the Atlantic Coast Conference. These coaches' pay also differed relative to the other assistant coach in the same program: The lowest-paid coach at UNC was paid [REDACTED] than the second lowest-paid coach, while the gap was [REDACTED] at the University of Pittsburgh.¹³⁸
96. This variation in compensation suggests that compensation depends on factors that can vary widely among workers and employers, which is consistent with what fundamental economic principles would predict.
97. *First*, according to basic labor economic theory, each proposed Class member's compensation would depend on their experience and skill level, which varies coach-by-coach. As Dr. Ashenfelter notes in his academic work, an individual's earnings can be viewed as "the result of a *variety of historical factors*, such as education, experience, social class, and others, that influence earnings capacity" (emphasis added).¹³⁹ He further testified at deposition that an individual's earnings will depend on their skills and their experience,

¹³⁶ See, e.g., Hamilton Declaration, ¶ 29 ("Assistant coach salaries vary widely across sports teams at the University of Arkansas. For example, in Women's Tennis, the lowest paid assistant coach receives a salary of \$50,000, while two of the assistant Men's Track and Field coaches receive salaries of \$143,222 and \$182,612 respectively."); Wombacher Declaration, ¶ 24 (At Arizona State University, "[t]here is considerable variation in salary across the lowest paid assistant coach in each sport, and across assistant coaches within a sport.>").

¹³⁷ See backup materials for **Exhibit 10**.

¹³⁸ See backup materials for **Exhibit 10**. The second lowest-paid coach at UNC was paid [REDACTED] percent. The second lowest-paid coach at the University of Pittsburgh was paid [REDACTED] percent.

¹³⁹ Orley Ashenfelter, "Estimating the Effect of Training Programs on Earnings," *The Review of Economics and Statistics*, Vol. 60, No. 1, February 1978, pp. 47-57, at p. 49 ("At the most rudimentary level, surely any theory of the determination of earnings will imply that current earnings are the result of a variety of historical factors, such as education, experience, social class, and others, that influence earnings capacity."). Emphasis added.

“among other things.”¹⁴⁰ Dr. Rascher also explained in his deposition that according to standard human capital theory, “workers are paid the value of their [...] marginal revenue product in competitive markets and that *individual factors* can sort of drive what that value is” (emphasis added).¹⁴¹ He acknowledged that in the context of NCAA Division I coaching, different coaches could provide different value, which could affect their earnings.¹⁴²

98. Evidence shows that Division I volunteer coaches have a wide range of professional experience before becoming volunteer coaches. For example, Exhibit 1 of the Rascher Report shows that coaches who were hired for a new paid position created in AY 2023-24 had prior experience that ranged from being a paid assistant coach in Division I for multiple years to being a head coach at a high school or a professional player or an assistant in Division II or III.¹⁴³ Similarly, *Colon* Named Plaintiffs had a range of professional experience prior to becoming volunteer coaches: Mr. Barajas had various roles at State Farm as an insurance adjuster over three decades; Mr. Hacker played in the minor league organizations of the Houston Astros and the Boston Red Sox for four years before concluding his professional baseball career in 2011; and Mr. Robinson’s volunteer position was his first post-college job.¹⁴⁴

¹⁴⁰ Ashenfelter Deposition 74:10-25 (“Q. [...] Would you agree that standard human capital theory links an individual’s earnings to their level of education, job experience, and industry experience? A. Certainly to their – to their – somehow measure of their skills, which is often taken as measured by schooling, and certainly different aspects of experience could matter, yeah. It just depends. Some aspects of experience are more important than others. Q. And it’s standard in labor economics that an individual’s earnings will depend on their skills and their experience? A. Yes. Among other things. That is not all. Among other things.”).

¹⁴¹ Rascher Deposition, 230:24-231:9 (“Q. And are you familiar with standard human capital theory? [...] A. It’s essentially that workers are paid the value of their – are paid the value of their marginal revenue product in competitive markets and that individual factors can sort of drive what that value is.”). Emphasis added.

¹⁴² Rascher Deposition, 242:19-24 (“Q. Right. It’s standard in labor economics that in general, in a competitive labor market, variations affect pay for jobs within the same occupation; correct? [...] [A.]: Again, yes, that can be the case.”); 247:22-248:13 (“Q. Right. And so you’re not offering the opinion that the marginal revenue product of all coaches who coached in Division I since the start of the class period was the same, are you? [A.]: No, I’m not. I’m not providing that opinion, no. Q. In fact, standard labor economics would tell you that different coaches have different marginal revenue products; isn’t that right? [A.]: Again, depends on the situation. But generally, if you have lots of coaches at different schools, they’re going to have different MRPs.”).

¹⁴³ Rascher Report, Exhibit 1.

¹⁴⁴ Barajas Deposition, 12:10-14:13; Hacker Deposition, 22:4-28:12; Robinson Deposition, 19:24-20:12.

99. *Second*, each coach's compensation may depend on their options for other employment, which varies on a school-by-school, sport-by-sport, and coach-by-coach basis. In standard economic wage bargaining models, a worker's bargaining power to negotiate wages depends on that worker's outside options.^{145,146} In the case of Division I assistant coaches, an individual coach's outside options depend on, among other factors, that coach's qualifications in the sport and in other fields; the types of employment options in a given sport (which varies significantly by sport); and other employment options (including those related to that particular sport) available in the local area and other areas where the coach would be willing to move.
100. For example, Mr. Robinson withdrew his application for the paid coaching position at the University of California, Santa Barbara in favor of taking a coaching position at a swim club in Austin, Texas to be close to his wife.¹⁴⁷ He testified that if offered the choice, he would prefer to continue coaching at the swim club rather than coach in some Division I programs, partly due to receiving higher compensation at the swim club.¹⁴⁸ Mr. Hacker testified that he only applied to (volunteer) coaching opportunities in the Sacramento area, "for family

¹⁴⁵ See, e.g., Shintaro Yamaguchi, "Job Search, Bargaining, and Wage Dynamics," *Journal of Labor Economics*, Vol. 28, No. 3, July 2010, pp. 595-631, p. 596 ("[O]ffers from outside firms improve the bargaining position of a worker [...]. Wages can grow as a result of an increase in the outside option value, even when productivity remains the same.").

¹⁴⁶ Each coach's compensation may also depend on the number of candidates who applied for the job and the experience, qualifications, and skills that those candidates, including the hired coach and the remaining candidates, offered. This is because the employer's bargaining power also depends on its outside options, i.e., how many candidates are willing to supply labor and what values they offer.

¹⁴⁷ Robinson Deposition, 174:9-176:19 ("Q. [...] And then on the next page [...] it says, 'Mr. Robinson applied for the following position to the University of Santa Barbara to serve as a swimming coach where the salary was \$45,000 per year.' Is that correct? A. Correct. Q. And this is accurate, this is the only paid [DI] coaching position to which you applied? A. That is correct [...] Q. Were you offered the position? A. No. [...] I withdrew my application after the first-round interview. Q. Why did you withdraw your application? A. I received a job offer for Waterloo Swimming, [...] a club in the Austin area. Q. And why did you withdraw your application from Santa Barbara upon receiving the offer from Waterloo? A. I had spent the last two years in a long-distance relationship with my girlfriend, now wife, and we made the decision to take the job that would bring me back to her.").

¹⁴⁸ Robinson Deposition, 216:13-21 ("Q. So it sounds like you would choose to remain at Nitro [swim club] over at least some [DI] coaching positions, depending on the circumstances? A. Ostensibly. Q. All right. Is coaching at Nitro different than coaching swimming in Division I? A. Yes."), 223:1-6 ("Q. Is one of the reasons you have not applied for any additional [DI] coaching positions since that time that you expect to make more or as much at your current job than you would in the [DI] coaching position? A. Yes.").

reasons,” which would have limited his outside options to that geography.¹⁴⁹ Similarly, Mr. Barajas testified that he has never considered taking a coaching position anywhere other than in the Central Valley of California.¹⁵⁰

101. *Third*, a proposed Class member’s but-for world compensation would depend on the pool of applicants for the paid coaching position, which, as described in **Section V.C**, would vary from position to position. Basic economic principles of supply and demand for labor suggest that a worker’s earnings will depend on both the quantity and quality of alternative candidates.¹⁵¹ An experienced coach applying for a job in a geographic area that attracts few applicants will generally be able to negotiate higher compensation than a new coach applying for a position in an area that is very attractive for coaches to live. For example, at the University of California, Davis, coach salaries are individualized and consider factors such as the market conditions specific to each sport and geography.¹⁵² This is also consistent with Dr. Rascher’s testimony that “skills, experience, demand for labor, the competitiveness of the

¹⁴⁹ Hacker Deposition, 78:19-79:14 (“Q. In looking for opportunities for work as a baseball coach, did you limit yourself to opportunities here in the Sacramento area? A. Personally, yes. Q. And did you make that decision for family reasons? A. Yes. Q. So at any time after you stopped playing professional baseball, were you considering coaching work outside of the Sacramento and Northern California area? A. If the right job came up. Q. What kind of job would potentially lead you to leave the Sacramento area? A. I mean, if Tennessee called me and wanted me to be a paid assistant, I’d probably go and move my family out there because it would be financially responsible to do so. Q. Have you ever applied for any coaching position outside of the Sacramento area? A. No.”).

¹⁵⁰ Barajas Deposition, 38:24-39:5 (“Q. Have you ever considered coaching volleyball anywhere outside of the Central Valley of California? A. No. Q. Can you think of any scenario in which you would have considered accepting a volleyball coaching position outside of the Central Valley of California? A. No.”).

¹⁵¹ As discussed above, each coach’s compensation may depend on the outside options of that coach as well as those of the program that hired that coach. This is because a worker’s bargaining power relative to an employer’s depends on the quantity and the quality of candidates for the same job. See, e.g., Charles E. Lindblom, “‘Bargaining Power’ in Price and Wage Discrimination,” *The Quarterly Journal of Economics*, Vol. 62, No. 3, May 1948, pp. 396-417, pp. 401-402 (“[S]trictly speaking, the competitive forces are in fact merely the decisions of other people in the market.”; “[...] [M]ajor determinants of wage rates or prices [...] can be classified as follows: [...] Competition from other buyers and sellers.”).

¹⁵² Flushman Declaration, ¶ 24 (“[Setting coach salaries at UC Davis] is a cohesive, collaborative effort. Salaries are individualized based on market considerations for each sport and based on where we want to go with each coaching position. [...] I look at the salaries offered to other coaches at other institutions. [...] I also consider geography in [...] setting salaries.”).

supply of labor, and the competitiveness of the demand of labor” constitute the “big factors” in determining earnings.¹⁵³

102. *Fourth*, factors specific to programs and positions, such as the amount the program would be able to pay to a paid coach and the specific responsibilities of the paid position, also affect each proposed Class member’s but-for world compensation. For example, at the University of Pittsburgh, the payment scale for assistant coaches is individualized based on considerations such as the specific hiring needs for each assistant coach and the head coach’s priorities for budget allocation.¹⁵⁴ The literature also finds that there is substantial variation in job skill and requirements even within occupations, which can explain wage differences among workers in the same occupation.¹⁵⁵ Mr. Smart testified in his deposition that in the context of NCAA Division I coaching, “whether [a] coach brings a skill set that the team needs” is a “factor in how much coaches should be paid.”¹⁵⁶

ii. Calculating Damages Requires Accounting for Benefits that Vary School-by-School, Sport-by-Sport, Program-by-Program, and Coach-by-Coach

103. Calculating damages for injured proposed Class members also requires accounting for monetary and non-monetary benefits, such as those described in **Section V.B.ii.b**, that volunteers received in the actual world. To the extent that a proposed Class member would not have earned those benefits in the but-for world, a proper economic calculation would

¹⁵³ Rascher Deposition, 230:1-10 (“Q. For a labor economist, what are some of the factors that can affect earnings? [...] A. I mean, generally, you know, skills, experience, demand for labor, the competitiveness of the supply of labor, and the competitiveness of the demand of labor. I think those are generally the big factors.”).

¹⁵⁴ Varley Declaration, ¶ 12 (At the University of Pittsburgh, “[t]he payment scale [for assistant coaches] was individualized based on each team’s head coach’s recommendations, the needs for hiring that particular assistant coach, and the priorities each head coach set for how to allocate the team’s budget.”).

¹⁵⁵ George J. Borjas, *Labor Economics*, McGraw Hill, 2020, p. 488 (“A lot of evidence indicates that there exist permanent wage differentials across firms, with some firms paying above-average wages and other firms paying below-average wages to workers of comparable skills.”); David H. Autor and Michael J. Handel, “Putting Tasks to the Test: Human Capital, Job Tasks, and Wages,” *Journal of Labor Economics*, Vol. 31, No. 2, 2013, pp. S59–S96, at p. S59 (“[A]nalytical, routine, and manual job tasks can be measured with high validity, vary substantially within and between occupations, are significantly related to workers’ characteristics, and are robustly predictive of wage differences between occupations and among workers in the same occupation.”).

¹⁵⁶ Smart Deposition 132:6-9 (“Q. Another factor in how much coaches should be paid is whether that coach brings a skill set that the team needs; right? A. I’d say that’s accurate.”).

reduce any damages that they suffered by the value of those benefits. Those benefits vary depending on the school, sport, program, and coach.

104. Non-monetary benefits likely varied across programs and had different value for different coaches. For example, as described in **Section V.B.ii.b**, some volunteer coaches received free training and access to facilities to train as professional athletics, while others did not. Whether the same training benefits would have been available to them in the but-for world will depend on program- and coach-specific factors.
105. Additional earnings opportunities available to volunteer coaches also varied from coach to coach, and across programs. Volunteer coaches earned different amounts from paid opportunities. For example, Mr. Smart earned about \$100,000 teaching baseball camps in one and a half years as a volunteer, while Graham Shaw, a Men's Soccer volunteer coach at Marquette University from AY 2017-18 to AY 2022-23, only received between [REDACTED] (in 2020) and [REDACTED] (in 2022) from camp payments.^{157,158} Compensation for other jobs held by volunteer coaches also varied, even at the same program and in the same year: In 2022, Alissa Atisme and Meghan Curtis, Track and Cross Country volunteer coaches at the University of Utah, received cash compensation of approximately [REDACTED] and [REDACTED] for part-time jobs at the university, respectively. A third volunteer coach in the same program,

¹⁵⁷ Smart Deposition, 110:16-110:21 (“Q. If you were paid as a coach at the University of Arkansas, do you think you would have spent less time working at the baseball camps? [... A.] Yes.”), 112:1-5 (“Q. Does approximately \$100,000 in the year and a half that you spent working at baseball camps seem about the amount of money that you made from that work? A. Roughly, yes. Once again, I don’t know the exact amounts of what that was.”), 113:17-114:18 (“Q. Now I think you mentioned while you were volunteering at Arkansas you gave private baseball instruction? A. Yes. Q. And who did you give private lessons to while you were volunteering at Arkansas? A. Youth players that were – that resided in – in Fayetteville, Arkansas, that – yeah, youth players was who I was giving instruction to. Q. And how did you connect – get connected with the youth players that you gave private instruction to at Arkansas? A. I mean, a number of different ways. Through like the marketing stuff that I did for the camps for my outreach. I connected with a lot of youth coaches in the area that liked my coaching style, that heard me speak in front of, you know, a hundred kids at a camp or something like that. I mean, like parents and kids at a camp approached me about, hey, do you do private lessons, you know, on the side? You know, anything else that you do that we can get instruction from you? And a lot of times that’s how it was – how it was done.”).

¹⁵⁸ “Marquette University data on coaches,” COLON_SCHLS_0000003359.

Grace Garrett, received cash compensation of approximately [REDACTED] and health insurance with a value of approximately [REDACTED] for a full-time job at the athletics department.¹⁵⁹

106. Additionally, whether forms of indirect monetary compensation available to volunteer coaches would have been available to coaches in additional paid positions would likely vary across schools and programs. Mr. Smart testified that, had he been a paid assistant coach, he would have spent less time working at baseball camps, and that paid assistant coaches worked fewer hours at baseball camps.¹⁶⁰ Other coaches may have made a different decision about whether to work as coaches and whether to pursue opportunities to earn additional income depending on the value of the additional income to them and their ability to fit the work needed to earn that income into their schedules. Whether these volunteer coaches would have been able to or interested in earning this additional income in the but-for world will depend on program- and coach-specific factors.

VI. DR. ASHENFELTER HAS NOT ESTABLISHED CLASSWIDE INJURY AND HAS NOT PROVIDED A RELIABLE COMMON METHOD TO ASSESS DAMAGES

107. Dr. Ashenfelter claims that the challenged NCAA Division I bylaw suppressed compensation for all or nearly all proposed Class members to zero.¹⁶¹ Dr. Ashenfelter also claims that this harm is common to the Class and that damages can be reliably estimated using a common methodology applicable to all members of the Class.¹⁶²

¹⁵⁹ “University of Utah data on coaches,” COLON_SCHLS_0000001733.

¹⁶⁰ Smart Deposition, 110:16-110:21 (“Q. If you were paid as a coach at the University of Arkansas, do you think you would have spent less time working at the baseball camps? [... A] Yes.”), 112:1-5 (“Q. Does approximately \$100,000 in the year and a half that you spent working at baseball camps seem about the amount of money that you made from that work? A. Roughly, yes. Once again, I don’t know the exact amounts of what that was.”), 109:16-22 (“Q. Did the paid assistant coaches at the University of Arkansas work at the baseball camps? A. Yes. Q. [...] [D]id the paid assistant coaches at Arkansas work at the baseball camps as much as you did? A. Not even close.”).

¹⁶¹ Ashenfelter Report, ¶ 8 (“I conclude based on this analysis that there exists evidence common to the class that the alleged conspiracy suppressed class members’ compensation generally, namely at zero. I also find that the alleged conspiracy affected all or nearly all members of the class.”).

¹⁶² Ashenfelter Report, ¶¶ 8, 10 (“I conclude based on this analysis that there exists evidence common to the class that the alleged conspiracy suppressed class members’ compensation generally, namely at zero. [...] I also conclude that there exists a reasonable methodology by which to estimate damages using data and methods that are common to the class.”).

108. As I explain below, Dr. Ashenfelter’s claim of classwide injury is based on implausible assumptions about the but-for world. Moreover, his damages methodology—which assumes classwide injury—contradicts economic models of wage determination in ways that cannot be corrected without a school-by-school, sport-by-sport, program-by-program, coach-by-coach analysis. Additionally, Dr. Ashenfelter’s methodology cannot be used to reliably estimate damages to each proposed Class member.

A. Dr. Ashenfelter Has Not Established Classwide Injury

109. Dr. Ashenfelter’s assertion that every proposed Class member in the *Colon* case would have received positive compensation during the proposed Class period is premised on untested and speculative assumptions about the but-for world and reflect flawed economic reasoning.

i. Dr. Ashenfelter’s Claim of Classwide Injury Is Based on Untested Assumptions About the But-For World

110. As discussed above in **Section V.A**, two things must be true for all proposed Class members to have been injured—that without the challenged bylaw, (i) *all* programs in *all* sports in *all* schools that had a volunteer coach would have added a paid coaching position; and (ii) *every* proposed Class member would have been hired for one of those additional paid positions. Dr. Ashenfelter assumes rather than proves these propositions.
111. Dr. Ashenfelter does not conduct empirical analysis to show that all programs that had a volunteer coach would have replaced that position with a paid one in the absence of the challenged bylaw. He ignores economic principles and empirical evidence discussed in **Section V.B** that (i) not all programs that are part of the *Colon* Class would have necessarily created an additional paid position in the but-for world, and (ii) many factors other than the challenged bylaw would have limited programs’ ability to add a paid coaching position.
112. Dr. Ashenfelter’s claim that all programs would have added a paid position in the but-for world is contradicted by Dr. Rascher’s own analysis, discussed in **Section V.B.i**, which finds that not all Baseball programs would have been likely to add a paid position in the but-for world.
113. Dr. Ashenfelter asserts that the fact “[t]hat a sport program had not hired and paid a new coach in the 2023-24 academic year [...] does not mean that they will not do so in the

coming months and years.”¹⁶³ He suggests that the potential delay could be due to the “lingering effects” of cartels, downward nominal wage rigidity, and the fact that university budgets take time to adjust.¹⁶⁴ However, these three factors do not imply that every single program would have replaced its volunteer positions with paid ones in the but-for world. During his deposition, Dr. Ashenfelter acknowledged that these explanations for the potential delay were not affirmative evidence that *all* schools would have hired an additional paid coach in all programs.¹⁶⁵ In addition, as discussed in **Section V.B.i**, many programs hired fewer than the maximum number of paid coaches permitted before the bylaws were amended. These programs were not constrained by the bylaws and the three factors raised by Dr. Ashenfelter cannot explain why they did not create additional paid positions. Moreover, the extent, if any, to which these factors can explain why a program did not hire a paid coach after the bylaws were amended will vary from school to school. For example, budgets may adjust more or less quickly for different programs, depending on their schools’ policies and priorities.

114. Dr. Ashenfelter also fails to demonstrate that *every* proposed Class member would have been hired to fill the additional paid positions that would have been created in the absence of challenged bylaw. For the reasons discussed in **Section V.C**, this is an unreasonable

¹⁶³ Ashenfelter Report, ¶ 60.

¹⁶⁴ Ashenfelter Report, ¶ 42 (“Once the restraint on compensation was abandoned and all limits on compensation for coaches were removed, one might expect that a sport’s team would immediately start paying the team’s previous volunteer coach. However, I would not expect this to happen immediately at every school, for several reasons: first, wages in general do not typically adjust immediately; second, university budgets are typically set in advance and many programs may not have had time to adjust budgets for increased paid coaching positions; third, sport programs have anchored their expectations that they are able to pay some workers a suppressed rate—\$0—due to the decades-long history of the Volunteer Coach Rule.”), ¶ 50 (“*Lingering Effects of Cartels*. Even after a collusive agreement on prices (including wages) has formally ended, the effects of the conspiracy may continue.”).

¹⁶⁵ Ashenfelter Deposition, 146:13-18 (“Q. So you don’t actually have the opinion that downward nominal wage rigidity explains why any school actually didn’t hire additional paid coaches, right? A. I don’t know why they didn’t, based on that alone, no.”), 147:6-13 (“Q. So you’re not offering any opinion then that the time it takes for universities to change their budget actually explains why any school didn’t hire additional paid coaches after the bylaws were amended? A. I don’t have a direct connection between that, just offering that as one of the things to explore.”), 147:24-148:11 (“Q. And are you offering the opinion that any NCAA member institutions colluded regarding coaching salaries after the amended bylaws were changed? A. No [...] Q. You didn’t perform any study in this case about whether this notion of residual collusion explains why any school did not hire additional paid coaches after the bylaws were amended? A. That’s correct.”).

assumption. Dr. Ashenfelter simply ignores the fact that paid positions would have attracted more competition than volunteer positions did, implying that coaches who are not in the proposed Class, rather than volunteers, would have been hired for at least some paid positions in the but-for world. In his deposition, Dr. Ashenfelter testified that economists “generally assume that, other things the same, higher wages would attract more workers.”¹⁶⁶ He also admitted that it is possible that, in the but-for world, a program would choose to hire another coach rather than pay the volunteer if the net value the other coach provides (accounting for their compensation) exceeds the value derived from the volunteer’s labor, which is consistent with economic models of demand for labor.¹⁶⁷ Dr. Ashenfelter does not address these economic principles.

ii. Dr. Ashenfelter’s Purported Evidence for Classwide Injury Is Based on Flawed Economic Reasoning

115. Dr. Ashenfelter presents what he considers to be “several pieces of evidence” that absent the challenged bylaw, “the market rate [for every proposed Class member] would be greater than zero.”¹⁶⁸ The “evidence” that Dr. Ashenfelter offers as alleged common evidence of antitrust injury is based on flawed economic reasoning and fails to establish classwide injury.
116. *First*, Dr. Ashenfelter asserts that “NCAA Division I member schools compensate their coaches” because “over 99% of unrestricted coaches in the data” he reviewed were

¹⁶⁶ Ashenfelter Deposition, 56:24-57:6 (“Q. Is it correct, as a matter of economics, that the more compensation that is offered for labor, the more workers will be interested in providing that labor? A. Yeah, we generally assume that, other things the same, higher wages would attract more workers. But it’s important to say ‘other things the same.’”).

¹⁶⁷ Ashenfelter Deposition, 156:8-157:22 (“Q. So let’s assume that in the – in the actual world the marginal revenue product – that is another way of saying value? A. Yeah, or the marginal benefit, whatever you want to call it. Q. Right. The marginal benefit that the school gets from the volunteer coach is \$50,000 and the compensation was zero. Okay? A. Okay. Q. And there was an applicant whose marginal revenue product was \$100,000, it would be worth it for that school to pay that applicant a salary and not hire the volunteer, right, that is what economics would tell us? [...] A. All depends on what they have been paid. Q. Right, but economics would indicate that the employer is going to hire the person for the position with whom they get the biggest difference between the marginal revenue and the marginal cost, right? A. Yes, that’s true. Q. And so it could be that if there were other applicants for the positions that the volunteer coaches held who offered more revenue [...] economics would say that the college would hire that applicant rather than the volunteer? A. Well, in this situation that is probably true.” Objection omitted.).

¹⁶⁸ Ashenfelter Report, ¶ 54.

compensated.¹⁶⁹ However, that figure does not take into account all coaches who could have been paid but were not. In fact, many programs did not hire the maximum number of paid coaches permitted by the bylaws during the proposed Class period, and still hired volunteers. For example, 20 percent of non-combined sport programs that had a volunteer in 2022 did not hire the maximum number of paid coaches permitted by the bylaws in AY 2022-23.¹⁷⁰ These programs were not constrained from offering a paid position by the challenged bylaw but chose to hire a volunteer instead.

117. *Second*, Dr. Ashenfelter claims that “[i]f the schools believed that the number of people who wanted to provide coaching services for free was so high that these schools could recruit and retain these workers without payment, then they need not have made an agreement to pay these workers \$0”¹⁷¹ and that “the fact that NCAA places limitations on the number of coaches for each sport is evidence that the demand for coaching staff is high.”¹⁷² This reflects flawed economic reasoning. The existence of the challenged bylaw is consistent with *some* but not all schools having sufficient resources and demand to hire an additional paid coach in the but-for world. If some schools could afford to do so but other schools could not (as the evidence I set forth in **Section V.B.ii.a** suggests), the challenged bylaw could reflect an attempt to prevent an imbalance between the two types of schools in a given sport. While I take no position on whether that was the purpose of the challenged bylaw, from an economic perspective, one cannot infer from the fact that the challenged bylaw existed that *all* schools had sufficient demand to hire additional paid coaches in *all* sports.
118. *Third*, Dr. Ashenfelter asserts, “[t]he fact that each class member was hired by and worked for an NCAA Division I school [...] provid[es] evidence that absent a rule preventing schools from paying class members, they would have done so.”¹⁷³ This claim is contradicted by standard theory of supply and demand. Demand for a free product does not imply positive

¹⁶⁹ Ashenfelter Report, ¶ 55.

¹⁷⁰ See **Exhibit 3**.

¹⁷¹ Ashenfelter Report, ¶ 56.

¹⁷² Ashenfelter Report, ¶ 57.

¹⁷³ Ashenfelter Report, ¶ 58.

demand if the product were not free. For example, many institutions may accept someone's labor for free but not be willing or able to pay for it, just as some people might accept a free meal or vacation that they could not afford to pay for if they had to do so, or fans at a baseball game might accept a free giveaway that they would not buy at the gift shop if they had to pay for it.¹⁷⁴ The existence of volunteer coaches in NCAA divisions without wage-regulating bylaws, discussed above in **Section V.B.i**, is an example that shows that not every entity that will accept a service for free will necessarily pay for that service even if it has value.

119. *Fourth*, Dr. Ashenfelter refers to internal pay equity—"the idea that workers who perform similar work receive similar pay"—and external pay equity—"the idea that employers offer similar compensation as other employers for similar work." According to Dr. Ashenfelter, "absent a rule preventing some assistant coaches from being paid, all or nearly all members of the class would have received compensation" because (i) "concerns about internal equity likely would have led to non-zero pay to the lowest-paid coach" and (ii) due to "external pay equity, [i]f the Volunteer Coach Rule never existed, there likely would have always been at least some schools compensating these workers, which would create competitive pressure for all schools to provide compensation."¹⁷⁵ But Dr. Ashenfelter has not studied the extent to which these concepts of internal or external pay equity would apply.¹⁷⁶ Because the concept of internal pay equity is that similar work warrants similar pay, Dr. Ashenfelter would first need to establish how comparable the responsibilities of the proposed Class members were to the responsibilities of the paid coaches to determine how internal pay equity would affect the compensation of proposed Class members in the but-for world. He has not done so. In

¹⁷⁴ See, e.g., University of Maryland, "New Research Reveals Nonprofit Volunteers More Valued Than Ever, but Scarce," February 8, 2023, *available at* research.umd.edu/articles/new-research-reveals-nonprofit-volunteers-more-valued-ever-scarce ("28.7% of nonprofits are operating with less funding and paid staff than they had before the pandemic. 'This gap in funding and staffing makes volunteers even more important for many mission-driven organizations,' said Nathan Dietz, senior researcher at the Do Good Institute and associate research scholar in the school.").

¹⁷⁵ Ashenfelter Report, ¶¶ 59-60.

¹⁷⁶ Ashenfelter Deposition, 161:6-24 ("Q. Now, did you study internal or external pay equity at any Division I athletics department? [...] A. No. [...] Q. So you're not offering any opinion in this case as to whether there is internal or external pay equity at any Division I program or in any sports? A. Not with respect to any individual program, that's correct." Objection omitted.).

addition, salaries varied widely across schools and sports, and even within the same program at the same school (see **Section V.D.i**). Moreover, many programs did not hire the maximum number of paid coaches permitted by the bylaws but did hire volunteers.¹⁷⁷ These disparities suggest that equity does not fully explain schools' hiring and salary decisions. Additionally, Dr. Ashenfelter's claim fails to account for the possibility that even with equity considerations, not every program would have had the budget to create additional paid positions in the but-for world.

B. Dr. Ashenfelter's Damages Model Is Economically Flawed

120. Dr. Ashenfelter's damages model is based on a series of assumptions that fail to account for important variation across programs, sports, and individual coaches. Dr. Ashenfelter overlooks the key supply and demand dynamics that determine market wages and disregards time-varying individualized factors critical for determining but-for compensation during the proposed Class period. Further, his reliance on data from a non-random sample of programs to estimate but-for compensation introduces selection bias. These economic flaws undermine the reliability of his conclusions.

i. Overview of Dr. Ashenfelter's Damages Methodology

121. To estimate the salary each volunteer coach would have received in the but-for world, Dr. Ashenfelter relies on data on salaries of paid coaches in programs that, in AY 2023-24, added at least one paid position beyond the maximum number of paid coaches permitted during the proposed Class period. For these programs, Dr. Ashenfelter calculates a "stepdown"—the percentage difference between the AY 2023-24 salaries of the lowest-paid coach and the second lowest-paid coach. Dr. Ashenfelter then averages this stepdown across all programs in his sample for all sports in which the NCAA bylaws permit teams to hire the same maximum number of paid coaches.¹⁷⁸ For example, for sports that experienced an increase in

¹⁷⁷ See **Exhibit 3**.

¹⁷⁸ Ashenfelter Report, ¶¶ 67-68 ("For the schools that have expanded their paid coaching staff in the post-conspiracy period, I have built a model explaining the 'step-down' in pay from the second-lowest-paid position (which corresponds to the lowest paid position during the conspiracy period) to the lowest-paid position. [...] I categorize sports into groups according to their post-conspiracy unrestricted coach limit (see above), and I

the maximum allowable number of paid coaches from two to three in AY 2023-24, Dr. Ashenfelter estimates the percentage stepdown from the second lowest-paid coach to the lowest-paid coach at each school that hired three paid coaches in those sports and then averages that percentage across all such programs.¹⁷⁹

122. Dr. Ashenfelter assumes that the average ratio of the lowest-paid coach and the second lowest-paid coach in AY 2023-24 at schools that hired additional paid coaches would have been the same for all programs in all sports in the same category in each year during the Class period. For example, the average “stepdown” percentage for schools that hired additional paid coaches in sports with a maximum of 4 paid coaches in AY 2023-24 was 50.5 percent.¹⁸⁰ Dr. Ashenfelter assumes that all volunteer coaches at all schools in those sports would have earned 49.5 percent of what the lowest-paid coach made in the year that they volunteered. Thus, to estimate the salaries of coaches who volunteered in sports with a maximum of four paid coaches under the current bylaws, Dr. Ashenfelter multiplies the salary of the lowest-paid coach in the program where the volunteer coached by 49.5 percent.¹⁸¹

ii. Dr. Ashenfelter’s Damages Model Overlooks Key Supply and Demand Dynamics in Estimating Market Wages for Proposed Class Members

123. Dr. Ashenfelter testified in his deposition that the but-for world “market rate would be obviously determined, in the broadest sense, by supply and demand absent the conspiracy.”¹⁸² Additionally, as discussed in **Section V.D**, many schools negotiate

interact indicators for these groups with the rank indicators in my model, which allows me to use a single regression to estimate unique rank coefficients for each group.”).

¹⁷⁹ Ashenfelter Report, ¶ 68 (“For instance, to interpret the number in the first row, if a sport expanded from two to three slots (e.g. tennis), the average relationship between the pay of the lowest paid coach is 45% lower than the pay of the second-lowest paid coach.”).

¹⁸⁰ Ashenfelter Report, Table 5.

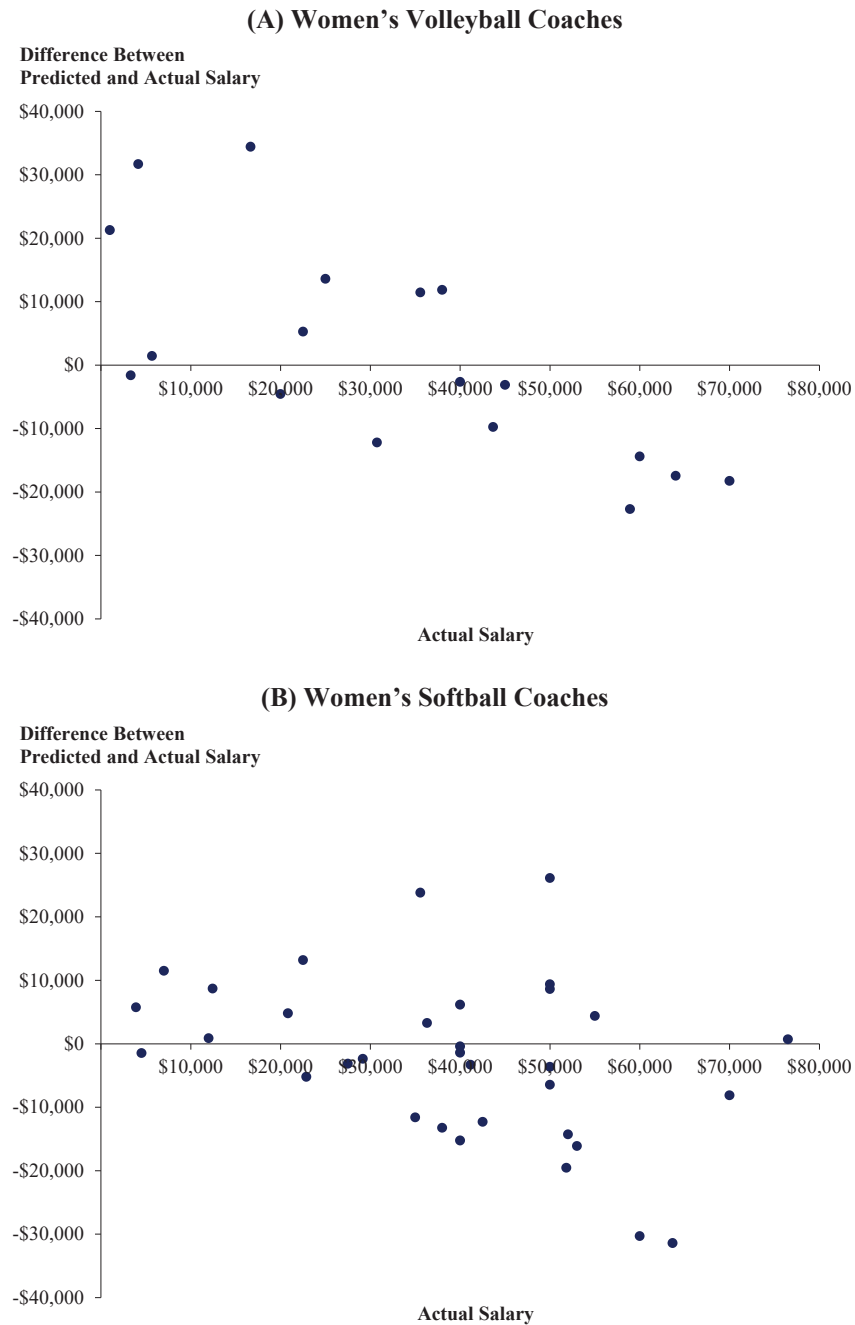
¹⁸¹ Ashenfelter Report, ¶ 71 (“For instance, if a men’s lacrosse team has a full complement of coaches (3 unrestricted coaches plus a volunteer coach), and the lowest-paid unrestricted coach receives \$80,000, reducing this \$80,000 by the relevant stepdown (50.5%) implies a but-for compensation of \$39,600. The difference between these estimated but-for earnings and the actual volunteer coach earnings (\$0), is damages.”), footnote 110 (“This is calculated as \$80,000 x (1-0.505).”).

¹⁸² Ashenfelter Deposition, 183:13-15.

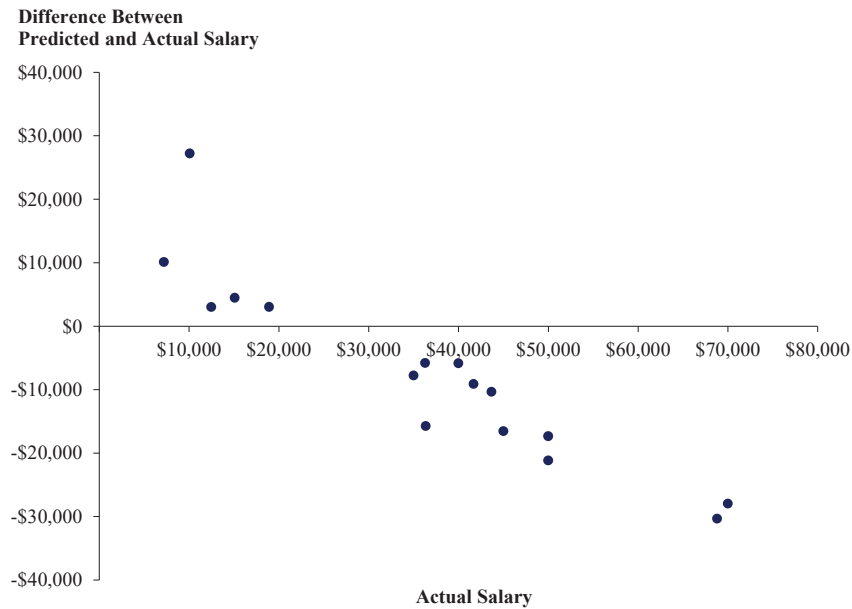
compensation directly with coaches and decide compensation on an individualized basis depending on factors such as the school's demand for coaching and the skills and experience of the coach. However, Dr. Ashenfelter's damages model, which aims to estimate the but-for world "market" compensation of each proposed Class member, fails to capture the specific supply and demand factors that would influence each individual's compensation and fails to address how these factors may vary across proposed Class members.

124. Empirical evidence suggests that Dr. Ashenfelter's model is flawed because it makes numerous large errors in predicting the compensation that coaches actually earned in AY 2023-24 that he uses as the basis for his model. **Exhibit 10** compares the actual salaries received by the lowest-paid countable coach in AY 2023-24 with those predicted by Dr. Ashenfelter's model. The dots below the x-axis reflect underestimates and the dots above reflect overestimates. For a given difference between predicted and actual salary, the relative difference will be greater for dots on the left of the exhibit.

Exhibit 10
Comparison of Actual and Predicted Salaries of Lowest-Paid Coaches in AY 2023-24¹⁸³



¹⁸³ Sources: Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Ashenfelter Report, ¶¶ 70-71.

(C) Men's Soccer Coaches**(D) Women's Tennis Coaches****Notes:**

[1] This analysis relies on data produced by the schools pursuant to Plaintiffs' subpoenas.

[2] The analysis includes all programs included in Dr. Ashenfelter's regression, which are programs that added at least one paid position beyond the maximum number of paid coaches permitted during the proposed Class period in AY 2023-24. Dr. Ashenfelter reported data for the 2023 and 2024 portions of AY 2023-24 separately. Because more schools had information for the 2023 portion of AY 2023-24 than the 2024 portion and to avoid duplication, the salaries reported in the exhibit are for that time period.

[3] "Predicted Salary" refers to the but-for world salary that would be estimated for the lowest-paid countable coach in a program using the results of Dr. Ashenfelter's stepdown model. It is calculated by applying the stepdown percentage estimated by Dr. Ashenfelter's regression for a given sport on a program's second lowest-paid coach's salary in AY 2023-24.

[4] Women's Softball, Women's Volleyball, and Men's Soccer have the highest number of programs in the sample in 2023. Because these three programs allowed a maximum of four paid coaches in AY 2023-24, the exhibit also shows the distribution of stepdown percentages in Women's Tennis, the program with the highest number of programs in the sample among sports that allowed a different number of paid coaches in AY 2023-24.

125. The exhibit shows that Dr. Ashenfelter's model makes meaningful errors in predicting what coaches hired for additional positions actually earned in AY 2023-24. For example, while Dr. Ashenfelter's model estimated that the lowest-paid coach Women's Softball coach at San Jose State University would receive approximately \$32,000, they actually received nearly [REDACTED]. Similarly, Dr. Ashenfelter's model predicted that the lowest-paid Women's Volleyball coach at the University of Utah would receive approximately \$36,000, yet they actually received approximately [REDACTED].¹⁸⁴ The wide discrepancies between salaries predicted by Dr. Ashenfelter's model and actual salaries highlight his model's inability to account for individual variations across programs, sports, and coaches and its unreliability for assessing proposed Class members' damages.
126. Economic principles suggest a number of reasons why Dr. Ashenfelter's model makes many significant errors in predicting actual coach salaries.
127. *First*, Dr. Ashenfelter's damages methodology incorrectly combines data from multiple sports without any basis to assume that supply and demand dynamics are the same across sports or correlated. Dr. Ashenfelter testified in his deposition that he had not done any analysis that would allow him to say that supply and demand for coaches in each Division I sport is the same.¹⁸⁵ Adjusting Dr. Ashenfelter's model to reflect potential differences in supply and demand conditions across sports meaningfully affects his estimates of wages. **Exhibit 11** compares the stepdown estimates from Dr. Ashenfelter's original model to estimates applying his model to each sport separately.

¹⁸⁴ See backup materials for **Exhibit 10**.

¹⁸⁵ Ashenfelter Deposition, 189:12-17 ("Q. Do you have an opinion as to whether supply and demand for coaches in each Division I sport is the same? A. Well, I haven't done that test, so I haven't done the analysis of what would allow you to say.").

Exhibit 11
Dr. Ashenfelter's Original vs. Sport-Specific Stepdowns¹⁸⁶

Coach Restrictions		Percentage
AY 2023-24	Stepdown Estimation	Stepdown
3	Dr. Ashenfelter's Regression	-45.0%
	W. Swimming	-8.6%
	W. Golf	-29.3%
	W. Beach Volleyball	-34.3%
	M. Golf	-42.5%
	W. Tennis	-47.3%
	M. Tennis	-61.5%
4	Dr. Ashenfelter's Regression	-50.5%
	W. Lacrosse	-36.4%
	W. Ice Hockey	-37.4%
	M. Volleyball	-38.3%
	W. Gymnastics	-38.4%
	M. Soccer	-48.4%
	W. Soccer	-48.7%
	W. Softball	-49.4%
	W. Field Hockey	-51.8%
	M. Ice Hockey	-52.6%
	W. Volleyball	-54.5%
	M. Wrestling	-64.9%
	M. Lacrosse	-68.0%
5	Dr. Ashenfelter's Regression	-61.2%
	W. Equestrian	-54.2%
	W. Swimming & Diving	-58.0%
	M. Swimming & Diving	-73.4%
6	Dr. Ashenfelter's Regression	-48.0%
	C. Swimming	-1.1%
	C. Tennis	-1.8%
	W. Track & Cross Country	-38.1%
8	M. Track & Cross Country	-74.4%
	Dr. Ashenfelter's Regression	-31.1%
	C. Swimming & Diving	-23.6%
	C. Track & Field	-42.6%

Notes:

[1] This table reports the percentage stepdown difference between the salaries of the lowest-paid countable coach and that of the second lowest-paid countable coach in AY 2023-24, (i) as reported by Dr. Ashenfelter, who calculates a stepdown for all sports with the same number of allowed coaches (see Table 5 of his report), and (ii) calculated using a similar method, but adjusted to be sport-specific. Dr. Ashenfelter's Regression is adjusted to use sport indicators rather than restriction indicators.

[2] The highlighted rows refer to the stepdowns estimated by Dr. Ashenfelter; the remaining rows to the stepdowns are estimated by the sport-specific regression.

[3] This table does not show the breakdown by sports with a coach restriction of nine and above because there is only one sport in each of these restrictions. Therefore, a sport-specific stepdown would be identical to Dr. Ashenfelter's estimate.

[4] Even though Football (FBS) programs are not part of the Class, Dr. Ashenfelter's data include eight FBS programs, three of which are included in his regression. For consistency purposes, the three observations are included in the modified regression.

[5] The following sports are not included in Dr. Ashenfelter's regression: C. Cross Country, C. Fencing, C. Golf, C. Skiing, C. Water Polo, M. Cross Country, M. Gymnastics, M. Rifle, M. Skiing, M. Track & Field, M. Water Polo, W. Acrobatics and Tumbling, W. Bowling, W. Cross Country, W. Fencing, W. Rugby, W. Skiing, W. Track & Field, W. Triathlon, W. Water Polo, W. Wrestling.

128. The exhibit shows large differences between the two sets of results. Because wages are based on supply and demand, the fact that modeling each sport separately changes the relative wages that Dr. Ashenfelter estimates suggests that supply and demand factors differ across sports that he groups together. Indeed, Dr. Ashenfelter testified in his deposition that differences in stepdown percentages across sports are indicative of "some differences in the supply and demand factors" between sports.¹⁸⁷
129. It is important to note, however, that even the sport-specific calculation as laid out above would not fully capture the dynamics of supply and demand (and thus earnings) in each sport, such that individualized inquiries would be necessary to calculate individual stepdowns. This is because supply and demand in Division I in many sports may also be influenced by supply and demand for coaching positions outside of Division I, as Dr. Ashenfelter acknowledged in his deposition.¹⁸⁸ For example, Dr. Rascher's analysis shows that a significant share of Baseball coaches who were hired for additional paid positions

¹⁸⁶ Sources: Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Ashenfelter's regression code (ncaa_class_cert_table4_table5.do).

¹⁸⁷ Ashenfelter Deposition, 188:15-189:11 ("Q. So, for example, you would compare the step-down from the second highest paid coach to the lowest-paid coach in group A to the step-down – same step-down in group B? [...] A. Yes. Q. And you would be looking to see whether those step-downs were the same? A. Yes. Q. Or close? A. Yes. Q. And if those step-downs were not close, what conclusion would you draw? A. That – that there are some differences in the supply and demand factors between the two sets of categories, A and B. Q. I see. And if you found that there were different step-downs between salaries in – from sport-to-sport, would that tell you that there's different supply and demand in different sports? A. Somewhat different, yeah.").

¹⁸⁸ Ashenfelter Deposition, 197:25-198:15 ("Q. So are you offering the opinion that the wage level for any Division I sport, coaching that sport, is limited to the supply and demand with respect to Division I assistant coaching jobs in that sport? [...] A. No. The supply and demand is broader than. That is why I didn't try to define the peripheries of a market. It's as broad as anything that could affect supply and demand for different kinds of workers. Q. Right, and – and jobs coaching a sport outside of Division I could affect the wage level of jobs coaching in Division I, right? A. Sure." Objection omitted.).

created in AY 2023-24 had previously worked outside of Division I.¹⁸⁹ The extent to which that is true could vary from sport to sport. In some sports, coaching jobs in professional minor leagues could affect earnings for Division I coaches, while in others such as golf or tennis, coaching jobs at local clubs could affect earnings. Dr. Ashenfelter has not proposed any model that accounts for the possibility that these supply and demand conditions will vary from sport to sport and thus has not proposed any model that could reliably estimate earnings.

130. *Second*, even within a given sport, Dr. Ashenfelter's methodology improperly pools and analyzes data from all programs in the United States. It fails to account for the fact that some proposed Class members had strong geographic preferences,¹⁹⁰ and that the availability of alternative coaching opportunities—such as junior colleges, private sports clubs, or high schools—could affect the market wage for coaching in a given region.¹⁹¹
131. *Third*, as explained in **Section V.B.ii.a**, beyond geography, individual school characteristics, such as budget constraints and priorities also play a crucial role in determining a program's demand for coaching and coach compensation. This variability means that two schools may allocate different proportions of their coaching salary expenditures to coaches at different

¹⁸⁹ Rascher Report, Exhibit 1; Barajas Deposition, 148:19-23 (“Q. All right. So let me just make sure I understand correctly. So earlier this year in around February of 2024 you applied for a head coaching position in volleyball at Reedley Junior College. A. Yes.”); Robinson Deposition, 176:4-11 (“Q. Why did you withdraw your application? A. I received a job offer for Waterloo Swimming. Q. Excuse me. And Waterloo Swimming is a club in the Austin area; is that correct? A. That is correct.”); Taylor Deposition, 234:3-25 (“Q. [...] I will represent to you that between these two responses there are 16 schools named. Are they all Division I schools? A. Not the high school. Q. Okay. And Academy of Art University and CSU San Marcos, are they Division II schools? A. They are a lower division. [...] Q. Okay. When did you apply for these 15 positions? A. It varies. [...] Q. How did you choose which schools to apply to? A. I was accepting a position anywhere, so I applied to all of these.”).

¹⁹⁰ Robinson Deposition, 176:12-22 (“Q. And why did you withdraw your application from Santa Barbara upon receiving the offer from Waterloo? A. I had spent the last two years in a long-distance relationship with my girlfriend, now wife, and we made the decision to take the job that would bring me back to her. Q. And she was, I take it, based in the Austin area? A. That is correct.”); Barajas Deposition, 38:24-39:5 (“Q. Have you ever considered coaching volleyball anywhere outside of the Central Valley of California? A. No. Q. Can you think of any scenario in which you would have considered accepting a volleyball coaching position outside of the Central Valley of California? A. No.”).

¹⁹¹ George J. Borjas, *Labor Economics*, McGraw Hill, 2020, p. 169 (“[The] factors [generating dispersion in wages across cities] include geographic differences in the skills of natives, regional wage differentials, and variations in the level of economic activity.”).

salary levels. In other words, two schools with the same compensation for their second lowest-paid coach might offer different salaries to the additional coach based on different budget constraints or priorities. Dr. Ashenfelter does not account for this variation, which makes his estimates of damages unreliable.

132. *Fourth*, Dr. Ashenfelter’s model does not—and cannot—account for any differences in human capital across coaches that would affect their earnings. During his deposition, Dr. Ashenfelter acknowledged that supply and demand also reflect the compensation that employers are willing to pay and the compensation workers require to supply work, at a certain level of skills.¹⁹² Dr. Ashenfelter’s own previous expert work and academic work underscores the importance of controlling for variations in the levels and types of human capital in determining compensation, noting that “current earnings are the result of a variety of historical factors, such as education, experience, social class, and others, that influence earnings capacity.”¹⁹³ But his model in this case fails to account for these factors. By assuming that the ratio of salaries for the lowest-paid and second lowest-paid coach would have been the same at all schools at all programs, Dr. Ashenfelter assumes that the difference

¹⁹² Ashenfelter Deposition, 193:14-194:5 (“Q. So if [...] people who have certain skills have the ability to do one set of jobs and people with a different set of skills have the ability to do a broader set of jobs, could that affect supply and demand in those two sets of jobs? [...] A. Well, supply and demand is really a result of the aggregation of the skills that people have and what they’re willing – what you have to pay them; in other words, how much they expect to receive, how much they – what will extract labor from them, and, on the other side, demand, which is what employers are willing to pay for different levels of output. So those two taken together. That is pretty complicated and involves lots of different factors.”).

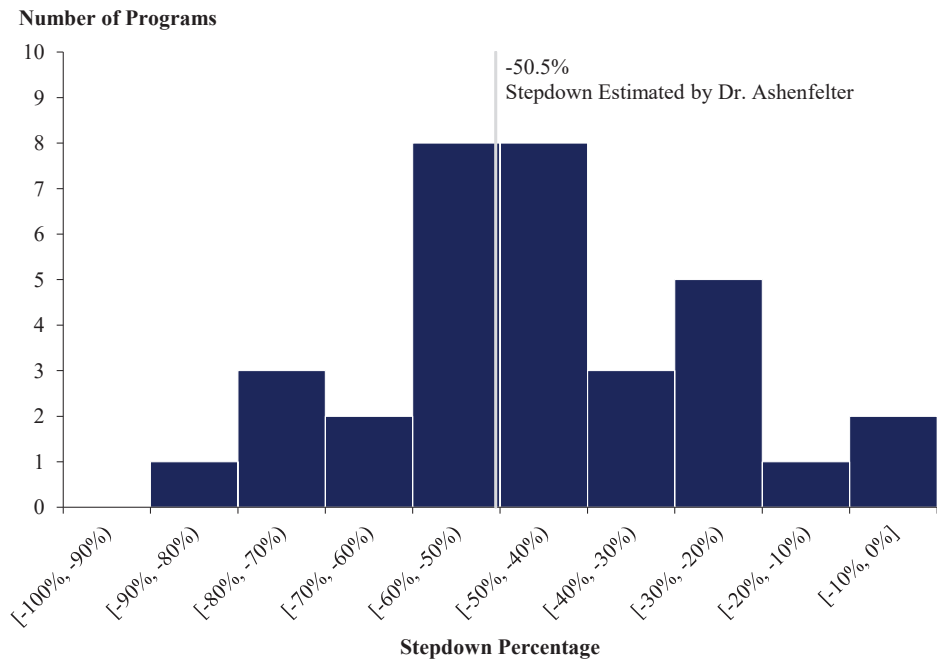
¹⁹³ Orley Ashenfelter, “Estimating the Effect of Training Programs on Earnings,” *The Review of Economics and Statistics*, Vol. 60, No. 1, February 1978, pp. 47-57, at p. 49. See also Orley Ashenfelter and Alan Krueger, “Estimates of the Economic Return to Schooling from a New Sample of Twins,” *American Economic Review*, Vol. 84, No. 5, December 1994, pp. 1157-1173, at p. 1171 (“[I]ncreased schooling increases average wage rates by about 12-16 percent per year completed.”); Orley Ashenfelter, “Estimating the Effect of Training Programs on Earnings,” *The Review of Economics and Statistics*, Vol. 60, No. 1, February 1978, pp. 47-57, at p. 56 (“[T]raining does appear to have increased the earnings of all trainee groups. For males this effect is between \$150 and \$500 in the period immediately following training, but declining to perhaps half this figure after five years. For females this effect is between \$300 and \$600 in the period immediately following training and does not seem to decline in the succeeding years.”); Ashenfelter Deposition, 242:7-244:7 (“Q. Did you control for age in your damages model in this case? A. No. Q. Did you – well, why not? A. I don’t think we have data on the age of the coaches. Q. Did you control for tenure in your damages model in this case? A. No. Q. Why not? A. Same reason, I don’t think we had that data. Q. Did you control for experience in your damages model in this case? A. No. Q. Why not? A. Basically, the same reason, I don’t think we have data on that. Q. Did you control for any employer-specific effects in your model in this case? A. [...] The [...] in the relative wage analysis, no. [...] Q. In the animation case you wanted to control for the characteristics of workers that could affect one worker being paid a different amount than the other? A. Yes.”).

in skills and experience between the lowest-paid and second lowest-paid coach would have been the same across all schools and across all programs.

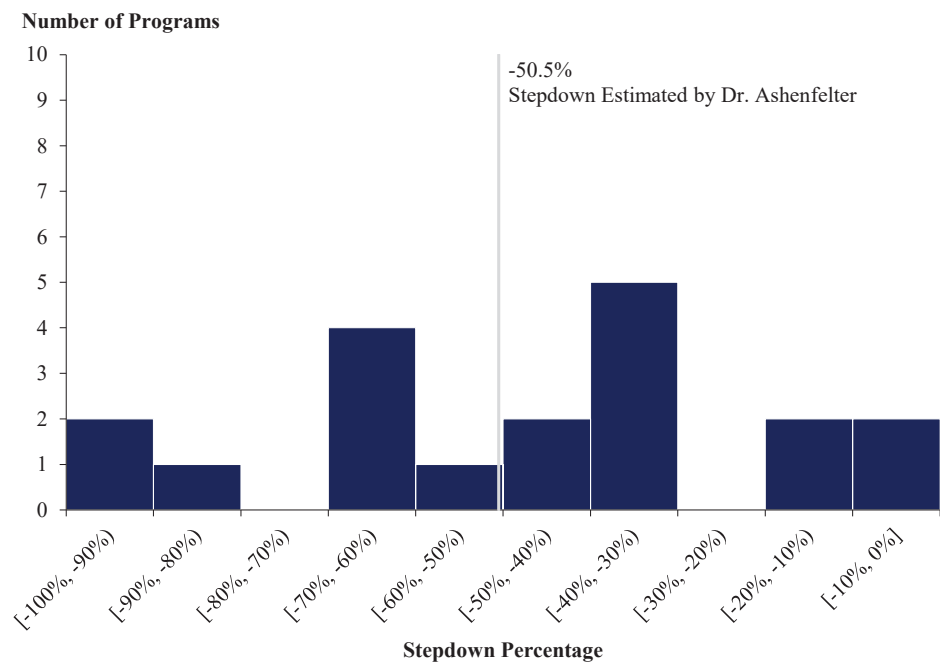
133. Indeed, empirical evidence undermines Dr. Ashenfelter's assumption. **Exhibit 12**, which compares the school-level stepdown percentages of compensation between the lowest- and second lowest-paid coach in AY 2023-24 to the average stepdown percentage estimated by Dr. Ashenfelter's damage model, for Women's Softball, Women's Volleyball, Men's Soccer, and Women's Tennis.

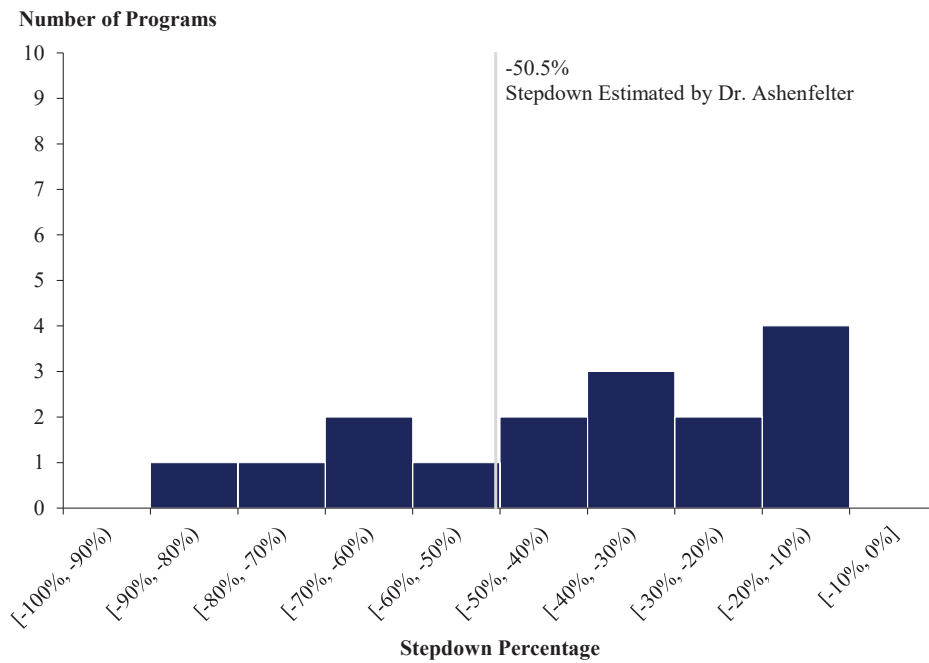
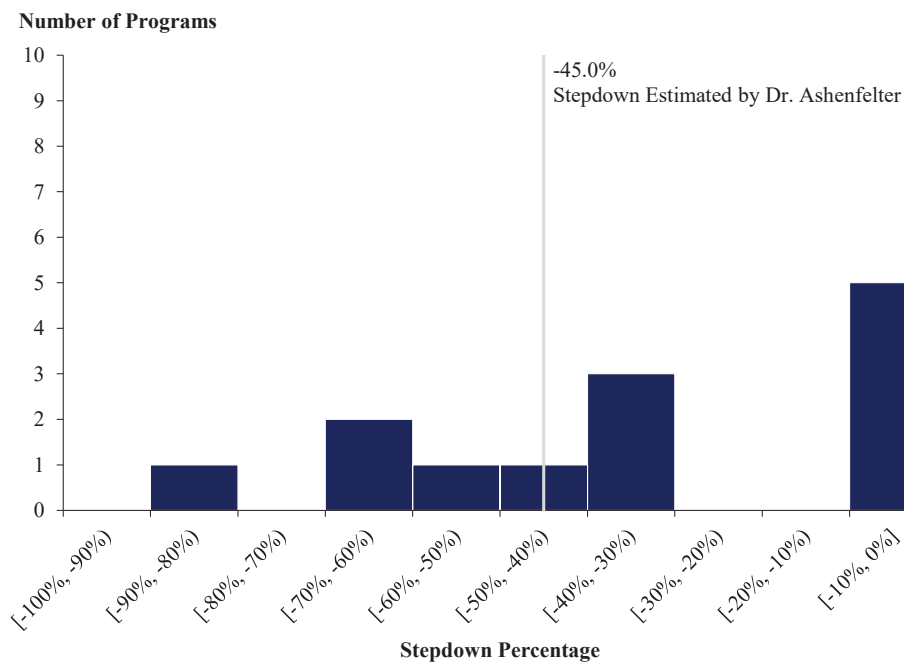
Exhibit 12
Variation in Individual Stepdown Percentages in AY 2023-24¹⁹⁴

(A) Women's Softball Coaches



(B) Women's Volleyball Coaches



(C) Men's Soccer Coaches**(D) Women's Tennis Coaches**

¹⁹⁴ Sources: Ashenfelter's countable coach limits (NCAA_restrictions.xlsx); Ashenfelter's data from schools (analysis_college.dta and analysis_volunteer.dta); Ashenfelter Report, Table 5.

Notes:

[1] This analysis relies on data produced by the schools pursuant to Plaintiffs' subpoenas.

[2] The analysis includes all programs included in Dr. Ashenfelter's regression, which are programs that added at least one paid position beyond the maximum number of paid coaches permitted during the proposed Class period in AY 2023-24. Dr. Ashenfelter reported data for the 2023 and 2024 portions of AY 2023-24 separately. Because more schools had information for the 2023 portion of AY 2023-24 than the 2024 portion and to avoid duplication, the salaries reported in the exhibit are for that time period.

[3] "Stepdown Percentage" refers to the percent difference between the salaries of a program's lowest-paid and second lowest-paid coaches in AY 2023-24, after the bylaws changed.

[4] Women's Softball, Women's Volleyball, and Men's Soccer have the highest number of programs in the sample in 2023. Because these three programs allowed a maximum of four paid coaches in AY 2023-24, the exhibit also shows the distribution of stepdown percentages in Women's Tennis, the program with the highest number of programs in the sample among sports that allowed a different number of paid coaches in AY 2023-24.

134. These data show that, contrary to Dr. Ashenfelter's assumption of uniformity, the stepdown percentage between the salaries of the lowest-paid and of the second lowest-paid coach varies widely. That is consistent with what human capital and matching theory would predict: because skills and experience vary across coaches and because different programs value skills differently, the ratio of coaching salaries varies as well. This variation across programs in the same sport also reinforces that compensation depends on program- and coach-specific factors and cannot be captured by average stepdowns pooling data from different programs.¹⁹⁵
135. *Fifth*, Dr. Ashenfelter's methodology incorrectly assumes that a fixed average stepdown percentage can be applied uniformly to estimate but-for compensation throughout the proposed Class period. This assumption ignores program-specific and coach-specific individual factors critical to determining but-for compensation that can change over time. Two volunteer coaches hired in the same program in different years of the proposed Class period may command different but-for world salaries, depending on their human capital, outside options, and schedules and need for flexibility, as well as the program's outside options (i.e., the quantity and quality of candidates), as discussed in **Section V.D.i**. A uniform stepdown percentage does not reflect those differences.
136. The example of Portland State University's Women's Softball coaches illustrates this flaw in Dr. Ashenfelter's methodology. As discussed in **Section V.D.i**, the team switched from

¹⁹⁵ Ashenfelter Report, ¶ 60.

having a lowest-paid coach, [REDACTED], who was working part-time between 2019 and 2022 to having a lowest-paid coach, [REDACTED], who was working full-time and was therefore paid [REDACTED] the salary of the previous coach. Throughout the same four-year period, the second lowest-paid coach's salary remained relatively stable. As a result, the magnitude of the stepdown between the salaries of the lowest-paid and second lowest-paid coaches [REDACTED]: for example, in 2022, the percentage stepdown changed from [REDACTED] [REDACTED].¹⁹⁶ Dr. Ashenfelter, however, assumes that the stepdown would have been the same. Similarly, the stepdown percentage applicable to the University of Louisiana's Women's Softball program changed from [REDACTED] in AY 2020-21 to [REDACTED] percent in AY 2021-22 when a very experienced associate coach left the program and was replaced by an assistant coach with no prior Division I coaching experience, who therefore commanded a [REDACTED].¹⁹⁷

iii. Dr. Ashenfelter's Damages Methodology Suffers from Selection Bias

137. Dr. Ashenfelter's methodology also suffers from selection bias, a well-known issue in economics that Dr. Ashenfelter acknowledges in his academic work.¹⁹⁸ The importance of

¹⁹⁶ "Portland State University data on coaches," COLON_SCHLS_0000001776. In 2022, the stepdown percentage between the salaries of [REDACTED] and the second lowest paid coach was [REDACTED] percent; the stepdown percentage between the salaries of [REDACTED] and the second lowest paid coach was [REDACTED] percent.

¹⁹⁷ "University of Louisiana at Lafayette data on coaches," COLON_SCHLS_0000000285. In AY 2020-21 the stepdown percentage between the salaries of the lowest-paid coach [REDACTED] and of the second lowest-paid coach, [REDACTED] was [REDACTED] percent. In August 2021, [REDACTED] was replaced by [REDACTED], who became the lowest-paid coach, while [REDACTED] became the second lowest-paid coach. In AY 2021-22, the stepdown percentage between the salaries of Justin [REDACTED] [REDACTED] was [REDACTED] percent.

¹⁹⁸ Ashenfelter Deposition, 62:5-8 ("Q. [...] Are you familiar with the concept of sample selection bias? A. Yes."), 64:12-21 ("Q. And is it important in labor economic analysis to avoid sample selection bias? A. Yes. Well, it depends on what your problem is. If – if – if the group that you have data on is the group that you want to study, then there is not an issue, but if the group that you're studying, as you said earlier, does not represent completely the group – the population you're interested in, then of course it's an issue."), Dr. Ashenfelter has applied selection-correct regression methods in his own empirical work. See, e.g., Ashenfelter Deposition, 66:23-68:19 ("Q. In your own published work have you used techniques to try to address potential errors from selection bias? A. That is a good question. [...] Oh, yes, no, I have actually, I have, yes, there is one. Q. What paper is that? A. It's about – it's an attempt to measure something called the value of a statistical life [...] in my paper with Greenstone [...]. And then we did use some selection corrections there because of issues associated with whether states had adopted these speed limits."); Orley Ashenfelter and Michael Greenstone, "Using Mandated Speed Limits to Measure the Value of a Statistical Life," *Journal of Political Economy*, Vol. 112, No.

addressing selection bias to obtain credible estimates from statistical analysis is widely recognized among economists.¹⁹⁹ Since Dr. James Heckman’s seminal and Nobel Prize-winning work on sample selection bias, the economics literature has sought to address this fundamental problem in empirical research.²⁰⁰

138. Selection bias occurs when the sample used for analysis is not randomly selected from the population, leading to systematic differences between those included in the sample and those excluded. As a result, using outcomes from the sampled population to predict outcomes for the unsampled population may not be accurate.²⁰¹ For example, economists recognize that using the wage changes of working mothers to predict the wage decline that women would be expected to experience after having children can underestimate the impact of motherhood on a woman’s earnings.²⁰² This is because mothers whose wages would be most negatively

S1, February 2004, pp. S226-S267, p. S233 (“[It] is possible to estimate [equation 6] by the usual selection corrected regression methods (Heckman 1979).”).

¹⁹⁹ Peter Hull, Michal Kolesár, and Christopher Walters, “Labor by Design: Contributions of David Card, Joshua Angrist, and Guido Imbens,” *Scandinavian Journal of Economics*, Vol. 124, No. 3, 2022, pp. 603-645, at p. 607 (“This problem of selection bias has long been recognized in economics. [...] In response to this fundamental identification challenge, economists have developed a variety of econometric methods that aim to purge selection bias in non-experimental settings by incorporating additional data and assumptions.”).

²⁰⁰ NobelPrize.org, “The 2000 Prize in Economic Sciences – Popular Information,” October 11, 2000, *available at* www.nobelprize.org/prizes/economic-sciences/2000/popular-information/ (“James Heckman has made many significant contributions to microeconomic theory and methodology, with different kinds of selection problems as a common denominator. He developed his methodological contributions in conjunction with applied empirical research, particularly in labor economics. Heckman’s analysis of selection problems in microeconomic research has had profound implications for applied research in economics as well as in other social sciences.”); Francis Vella, “Estimating Models with Sample Selection Bias: A Survey,” *The Journal of Human Resources*, Vol. 33, No. 1, 1998, pp. 127-169, at p. 137 (“Since James Heckman’s seminal work on sample selection bias, the economics literature has abounded with empirical applications employing his proposed methodology.”).

²⁰¹ James J. Heckman, “Sample Selection Bias as a Specification Error,” *Econometrica*, Vol. 47, No. 1, January 1979, pp. 153-161, at pp. 153-154 (“Sample selection bias may arise in practice for two reasons. First, there may be self selection by the individuals or data units being investigated. Second, sample selection decisions by analysts or data processors operate in much the same fashion as self selection. There are many examples of self selection bias. One observes market wages for working women whose market wage exceeds their home wage at zero hours of work. Similarly, one observes wages for union members who found their nonunion alternative less desirable. [...] In each of these examples, wage or earnings functions estimated on selected samples do not in general, estimate population (i.e., random sample) wage functions. Comparisons of the wages of migrants with the wages of nonmigrants (or trainee earnings with nontrainee earnings, etc.) result in a biased estimate of the effect of a random ‘treatment’ of migration, manpower training, or unionism.”).

²⁰² Jane Waldfogel, “The Effect of Children on Women’s Wages,” *American Sociological Review*, Vol. 62, No. 2, April 1997, pp. 209-217, at pp. 211-212 (“I also created a pooled dataset which has the advantage of fully

affected by having a child are more likely to leave the labor force than those whose wages would be less affected by having children.

139. Dr. Ashenfelter’s model suffers from selection bias because it is based only on salaries from programs that added paid coaching positions after the bylaws changed, beyond the maximum number of paid coaches that was imposed during the proposed Class period. Such programs represent only 16 percent of all programs that reported salary data.²⁰³ Relying on these programs will bias Dr. Ashenfelter’s results, because these programs that hired additional paid coaches are likely different from those that did not add paid coaching positions. For example, as discussed in **Section V.B.ii.a**, programs that hired an additional paid coach in AY 2023-24 are likely to have greater financial resources and prioritize coaching. Dr. Ashenfelter admitted in his deposition that it was “possible” that programs that hired an additional paid coach in AY 2023-24 had higher demand for coaching services than schools that did not.²⁰⁴ As such, even if programs that did not add a paid position in AY 2023-24 would have done so in the but-for world—which Dr. Ashenfelter has not established—these programs would likely have offered lower relative salaries than those that did add a paid position in AY 2023-24. Thus, by using salaries of coaches in programs that added paid coaching positions to predict salaries at programs that did not, Dr. Ashenfelter will overestimate salaries.
140. This issue is especially problematic for volunteers in programs that did not hire the maximum allowable number of paid coaches during the proposed Class period. As discussed in **Section V.B.ii.a**, the fact that a program did not hire the maximum number of paid coaches even

exploiting the NLS- YW data collected in 15 surveys over the 1968-1988 period. Because many women are not in the labor market every year, pooling the data greatly increases the likelihood of observing wages earned by any one woman. This step is important because, all else equal, women for whom the negative effect of children is the greatest are the least likely to be employed and are also the least likely to be part of any given cross-sectional sample of labor-market participants. In the pooled model [...], the penalty associated with having one child is over 5 percent, and the penalty for two or more children is over 13 percent. These coefficients are larger than those in the single year cross-section, suggesting that selection may have biased the child coefficients toward zero.”).

²⁰³ See backup materials.

²⁰⁴ Ashenfelter Deposition, 241:4-9 (“Q. Is it possible that schools that paid additional assistant coaches in 2023-2024 had higher demand for coaching services than the schools who did not? [...] A. It’s possible.” Objection omitted.).

during the proposed Class period suggests that the program was very budget constrained or was not a high priority in the athletic department. Due to those dynamics, if these programs would have added paid coaches in the but-for world at all, they likely would have paid low salaries: programs that were not willing to pay coaches who could be paid likely would not pay very much to the coaches who volunteers if they could have been paid. But Dr.

Ashenfelter's damages model incorrectly treats these programs the same as those that hired the maximum number of paid coaches during the proposed Class period and then added more paid coaching positions after the bylaws were amended.

141. Finally, relying only on salaries of coaches at programs that added paid positions also results in selection bias because these programs hired coaches that are not representative of all proposed Class members. As discussed in **Sections V.B.ii and V.C**, programs that added paid positions in AY 2023-24 may be systematically different from programs that did not and are likely to hire coaches who are more experienced and better qualified than at least some volunteer coaches would have been during the proposed Class period. Therefore, programs that added paid positions in AY 2023-24 hired coaches who would have likely commanded higher wages than some proposed Class members during the proposed Class period. This is another reason why using salaries of coaches in programs that added paid coaching positions to predict salaries of coaches at programs that did not will likely overestimate salaries.
142. Dr. Ashenfelter does not attempt to correct for sample selection bias in his estimates of but-for world salaries, and his failure to do so renders his damages model unreliable.

VII. DR. RASCHER HAS NOT PROVIDED A RELIABLE COMMON METHOD FOR DETERMINING INJURY OR DAMAGES

143. Dr. Rascher claims that all proposed Class members were harmed by the challenged NCAA bylaw "by virtue of not having the opportunity to provide services in a competitive market,

and instead having their pay fixed at \$0.”²⁰⁵ He further claims that he has developed a method to quantify damages reliably for all proposed Class members.²⁰⁶

144. As I explain below, Dr. Rascher’s models cannot be used to reliably determine injury or estimate damages to each proposed Class member without individualized inquiries. His models are inconsistent with empirical evidence and suffer from economic flaws.

A. Dr. Rascher’s Model Cannot Reliably Identify Programs That Would Have Added a Third Paid Assistant Coach Position in the But-For World

145. Unlike Dr. Ashenfelter, Dr. Rascher recognizes that for classwide injury to be established in *Smart*, it must be true that *all* Baseball programs in *all* schools would have “paid a third assistant coach” without the challenged bylaw.²⁰⁷ However, the methodology Dr. Rascher uses to identify the programs that would have done so suffers from critical methodological and conceptual flaws.
146. *First*, Dr. Rascher’s probit model fails to account for the many individualized demand- and supply-side factors that would have determined whether a program would have added a third paid assistant Baseball coach position, as detailed in **Section V.B.ii**. This can be observed from the fact that Dr. Rascher’s model does not accurately predict Baseball programs’ hiring decisions in the real world. His model incorrectly predicts whether a program would add a third paid assistant coach position in AY 2023-24 for over 20 percent (43 out of 208 programs).²⁰⁸
147. Dr. Rascher’s model predicts that 22 programs would have added a third paid assistant coach position in AY 2023-24 when, in fact, they did not do so. For example, although Dr. Rascher predicts that there was a 72 percent chance that Boston College would have hired a third paid

²⁰⁵ Rascher Report, ¶ 16 (“As alleged, all class members suffered an injury by virtue of not having the opportunity to provide services in a competitive market, and instead having their pay fixed at \$0.”).

²⁰⁶ Rascher Report, ¶ 16 (“In addition, there exists class-wide methodologies for proving damages, which take into account the lingering effects of the alleged misconduct.”).

²⁰⁷ Rascher Report, ¶ 154 (“The first step of my damages methodology is to identify the schools likely to have paid a third-assistant coach in equilibrium in the but-for world.”).

²⁰⁸ Rascher Report, ¶ 169, footnote 186.

coach in AY 2023-24, Boston College did not do so.²⁰⁹ Dr. Rascher's model also predicts that 21 programs would not have added a third paid assistant coach position that, in fact, did so in AY 2023-24. For example, although Dr. Rascher's model predicts that Harvard would not have hired a third paid Baseball coach in AY 2023-24, Harvard, in fact, did so.²¹⁰

148. *Second*, Dr. Rascher ignores the uncertainty inherent in his predicted probabilities. For 45 programs out of the 225 programs he predicts would have hired an additional paid coach (or 20 percent of such programs), Dr. Rascher's conclusions do not meet the 95 percent confidence level threshold that is widely used to assess the statistical reliability of estimates. Nor can Dr. Rascher do so for 37 of the programs that he predicts would not have added a third paid assistant position in the but-for world.²¹¹
149. *Third*, Dr. Rascher assumes that the hiring decisions from AY 2023-24 that he uses to build his model can reliably predict programs' hiring decisions up to five years earlier in AY 2018-19, and throughout the proposed Class period.²¹² But Dr. Rascher provides no evidence to support this assumption, which disregards that the number of coaches a program chooses to hire can vary over time, as discussed in **Section V.B.ii.c**, and ignores potential differences in

²⁰⁹ See backup materials.

²¹⁰ See backup materials.

²¹¹ The 95 percent confidence interval quantifies the uncertainty associated with an estimate. Both Dr. Rascher and Dr. Ashenfelter report the statistical significance of their results at the 95 percent confidence level. The 95 percent confidence intervals for 45 programs out of the 225 include predicted probability estimates lower than 20.6 percent, the one-year probability threshold that Dr. Rascher claims is equivalent to a 50 percent probability of adding a third paid assistant coach position within three years of the bylaw being repealed. Similarly, the 95 percent confidence intervals for 37 of the programs that Dr. Rascher predicts would not have added a third paid assistant position in the but-for world include predicted probability estimates higher than 20.6 percent. See backup materials. See Rascher Report, ¶ 166 (“[T]he model contains variables that are individually statistically significant.”), Exhibit 6; Ashenfelter Report, ¶ 68 (“Column [3] presents the t-statistic on this coefficient. In general, using a ‘one-tailed’ test, a t-statistic greater than 1.645 indicates that the difference is statistically significant at the 5% level, and is unlikely to have arisen by chance. This analysis shows that for programs with 3, 4, 5, 9, or 12 allowable coaches in the post-conspiracy period, the estimated coefficient is statistically significantly different from 0 at the 5% level.”).

²¹² Rascher Report, ¶ 170 (“Beyond testing the year for which we have data, what makes the probit regression model powerful is that once calibrated, the model can be applied to other years, where actual-world data are not available. The model does not need to know whether the team did or did not pay in any given year to predict that or any other year's behavior. Thus, the probit regression model can be used to predict/forecast what those schools would have done in 2018-19.”).

economic and structural conditions between AY 2023-24 and years during the proposed Class period.²¹³

150. *Fourth*, Dr. Rascher’s probability threshold for identifying programs that would have added a third paid assistant coach position in AY 2018-19 rests on unreasonable and unsupported assumptions and is economically unsound.
151. Dr. Rascher asserts that “the transition into the hiring of third assistant coaches [...] will occur over several years” due to the “lingering effect” of the challenged bylaw.²¹⁴ Dr. Rascher claims to take these lingering effects into account by estimating the probability that a program would have added a third paid assistant coach position within three years after the

²¹³ For example, Dr. Rascher assumes that a model based on decisions in the post-COVID-19 environment can accurately predict staffing decision that would have been made during the pandemic. But many Division I programs instituted hiring freezes for all non-essential employees during the pandemic and made other budget and salary cuts. See, e.g., Hamilton Declaration, ¶¶ 13-15 (“The COVID-19 pandemic began during the 2020-21 budgeting process for the athletics department at the University of Arkansas. [...] [D]uring the 2019-2020 fiscal year the University of Arkansas’ athletics department experienced a double-digit revenue decline from \$137.49 million to \$123.35 million. [...] Nearly all non-contract employees of the athletics department were required to take a mandatory 5-10% pay cut and all head coaches agreed to take a 10% salary reduction. [The University of Arkansas athletics department] implemented a hiring freeze for the 2020-2021 academic year with an exception for essential personnel.”); Varley Declaration, ¶ 13 (“[The University of Pittsburgh athletics department] instituted a hiring freeze, with an exception for essential workers, for several months of the 2020 calendar year.”); Smart Deposition. 157:15-21 (“Q. In 2020 there was a massive lack of opportunity for paid positions in coaching baseball; right? [...] A. Yeah. I think there was a lack of opportunity for paid coaches.”).

Dr. Rascher acknowledges a “clear decrease” in several financial variables due to Covid, which reflects a disruption in economic conditions. While he points out that the number of assistant coaches did not meaningfully decline in the actual world, this observation does not imply that the third paid assistant positions would also be unaffected in the but-for world. Rascher Report, footnote 46 (“Further, the team revenue CAGR between 2016-2019 (pre-COVID) of 2.9 percent was comparable to the CAGR between 2019-2023 (post-COVID) of 1.9 percent. It is also the case that, even though there is a clear decrease in several financial variables during COVID (academic year 2020), the number of assistant coaches did not show a meaningful decline across the class period.”).

As another example, his model assumes that the proportion of programs in the same conference adding a third paid assistant coach in AY 2023-24 predicts whether a program would have done so in AY 2018-19. Rascher Report, footnote 187 (“The one exception is the conference conduct variable, which remains constant based on 2023-24 conduct. Every school was, by rule, unable to pay its third assistant coach in 2018-19, so this variable cannot be measured in that year. Variables that contain dollar-level values are adjusted using an annual CPI index to be comparable to 2023 nominal dollars.”). This approach assumes schools’ hiring decisions in AY 2018-19 mirror those in AY 2023-24, disregarding changes in institutional priorities or constraints over time.

²¹⁴ Rascher Report, ¶ 137 (“There is substantial economic evidence, theoretical and empirical, that the transition into the hiring of third assistant coaches should not be expected to have occurred instantaneously for all schools, but will occur over several years. The economics literature of competition explains that there are economic reasons for market correction not occurring instantly after the breakup of a long-running cartel. This is often referred to as the ‘lingering effect’ of collusive conduct.”).

bylaws were no longer in effect.²¹⁵ Specifically, Dr. Rascher predicts that a school would have added a third paid assistant coach position in the but-for world if its one-year predicted probability of doing so in AY 2018-19 is at least 20.6 percent, which he claims is equivalent to a 50 percent probability of adding a third paid assistant coach position within three years of the challenged bylaw being repealed.²¹⁶ However, Dr. Rascher provides no support as to the extent and strength of these lingering effects, and why a three-year window is adequate to account for them.

152. A one-year probability of 20.6 percent is equivalent to a three-year cumulative probability of 50 percent only under specific assumptions.^{217,218} Specifically, Dr. Rascher assumes that the probability that a program adds a third paid assistant coach position in one year is

²¹⁵ Rascher Report, ¶ 24 (“As is discussed below, in my damages work, I extend the work to take lingering effects into account by means of an estimation of the cumulative probability associated with each school paying its third assistant coach.”), ¶ 157 (“Specifically, for the lingering effects extension I make [...], as part of any probit model, one needs to establish the probability cutoff associated with whether a result (the probability of adoption for each school) is classified as a ‘yes’ or a ‘no’ (yes, the school will adopt, or no, the school will not). When one is confident the data on which the model is calibrated reflects equilibrium conditions, the most common cutoff is simply 50%. I adopt this methodology – however, because the 2023-24 data are all I have available for calibration, I base that 50% cutoff on a cumulative probability of adopting a paid third assistant coach over three years to capture the impact of lingering effects. Based on the methodology laid out in Section 9.1.6, this has the effect of lowering the one-year (non-cumulative) probability threshold to 20.6%, which corresponds to a cumulative three-year probability of 50%. [...] This provides prediction of the long-run equilibrium outcome consistent with the assumption that the alleged misconduct in this case [...] never happened.”).

²¹⁶ Rascher Report, ¶ 177 (“In this demonstration, I have adopted a three-year cutoff. This corresponds to a single-year threshold of 20.6%. That is, schools the model predicts have more than a 20.6% chance of paying their third assistant coach within one year are more likely than not (i.e., have a more than 50% chance) to pay their third assistant coach within the first three years after the rule changed. From this, I assume they were more likely than not to have paid their third assistant coach in 2018-19, assuming the volunteer coach rule had never been enacted.”).

²¹⁷ Rascher Report, ¶176 (“As a means of estimating the steady-state conduct of the D1 schools, I use the predicted probability of adopting in the first year and extend that out over more than one year to determine the cumulative probability.”).

²¹⁸ If a school has a 20.6 percent chance of adopting in the first year and this probability remains same over the years, then the probability of adoption within the first two years can be calculated as follows: it is the probability of adopting in the first year (20.6 percent) plus the probability of not adopting in the first year ($100 - 20.6 = 79.4$ percent) multiplied by the probability of adopting in the second year (20.6 percent) which equals to 37.0 percent. Similarly, the probability of adopting within the first three years is the probability of adoption in the first two years (37.0 percent) plus the probability of not adopting within the first two years (79.4 percent times 79.4 percent = 63.0 percent) multiplied by the probability of adopting in the third year (20.6 percent) which yields 50.0 percent.

independent of whether it had added a third paid assistant coach position in previous years. This assumption is fundamentally flawed for the following reasons.

- i. *First*, this assumption implies that every program would have added a third paid assistant coach position in the long run even though Dr. Rascher testified that he did not offer the opinion that every Baseball program would have done so.²¹⁹ This is because, as long as the predicted probability is greater than zero, no matter how small it is, the cumulative probability will be greater than 50 percent after a large enough number of years. For example, even if Dr. Rascher predicted that a program had a ten percent probability to add a third paid assistant coach position in a given year, his model would still predict that this program would have added a third paid assistant coach position within seven years after the bylaws were amended.²²⁰
- ii. *Second*, the probability of an event occurring in subsequent years is rarely independent of whether it occurred in previous years, particularly in the context of hiring decisions.²²¹ Decisions made in one year are often influenced by constraints,

²¹⁹ Rascher Deposition, 150:23-151:2 (“Q. Well, are you offering the opinion that all schools who hired a volunteer baseball coach would have hired a third paid baseball assistant in the but-for world? A. No, I’m not offering that opinion.”), 162:17-19 (“Q. Or eventually, some schools may not adopt an additional paid baseball coach position; right? A. Yes.”), 169:8-23 (“Q. Dr. Rascher, is it your opinion that the existence of the NCAA bylaws that are being challenged proves that all volunteer coaches would have been hired for paid positions without those bylaws? A. No. I mean, I don’t have an opinion on it, obviously, outside of baseball. Within baseball, as I said, I’m only sort of measuring a certain number of schools and, therefore, a certain number of volunteer coaches and potentially more beyond sort of the outside of the class. But I’m not saying – I think you asked me this before, I’m not saying all 312 schools, I think, doing their data, would have necessarily hired a paid volunteer coach.”).

²²⁰ A one-year probability of 10 percent translated into a seven-year cumulative probability of about $1-(1-0.1)^7=52.2$ percent, above the 50 percent cut-off.

²²¹ See, e.g., in the context of unemployment, Badi H. Baltagi, *Econometric Analysis of Panel Data*, 3rd Ed., John Wiley & Sons, Ltd, 2005, pp. 216-217 (“In the ‘true’ case, once an individual experiences an event like unemployment, his preferences change and he or she will behave differently in the future as compared with an identical individual that has not experienced this event in the past. In fact, it is observed that individuals with a long history of unemployment are less likely to leave unemployment. They may be less attractive for employers to hire or may become discouraged in looking for a job. In the ‘spurious’ case, past experience has no effect on the probability of experiencing the event in the future. It is the individual’s characteristics that make him or her less likely to leave unemployment. However, one cannot properly control for all the variables that distinguish one individual’s decision from another’s. In this case, past experience which is a good proxy for these omitted variables shows up as a significant determinant of the future probability of occurrence of this event. Testing for true vs spurious state dependence is therefore important in these studies, but it is complicated by the presence of the individual effects or heterogeneity.”).

policies, or outcomes that also existed in earlier years. For example, a program's decision not to add a third paid assistant coach position in AY 2023-24 may reflect program priorities other than coaching such as facility improvements or scholarships, which may remain consistent over time. Dr. Rascher's assumption that a program's coach hiring decision in one year is independent of its decision in previous years is unsupported and contradicted by evidence.

B. Dr. Rascher Ignores Additional Competition in the But-For World

153. Dr. Rascher also fails to evaluate the second necessary condition for classwide injury—that *every* proposed Class member would have been hired to fill the additional paid positions that would have been created in the absence of challenged bylaw. His damages model assumes without support that proposed Class members would have filled the additional paid positions that would have been created. For the reasons I discuss in **Section V.C**, this is an unreasonable assumption. During his deposition, Dr. Rascher testified that “assuming we’re in sort of a textbook, econ 101, then higher pay will tend to, you know, increase the labor supply.”²²² However, his damages model simply ignores that paid positions would have attracted more competition than volunteer positions, resulting in at least some coaches who are not in the proposed Class being hired instead of volunteers for at least some paid positions in the but-for world. Empirical evidence shows that not every additional paid coaching position created after the bylaws were changed was filled by a former volunteer coach. In particular, as I discuss in **Section V.C**, 42 percent of individuals occupying the third paid assistant Baseball coach position in AY 2023-24 were not Division I volunteer coaches in the previous year and came from a variety of backgrounds.²²³

²²² Rascher Deposition, 113:14-23 (“Q. As an economist, all else equal, would you expect more qualified workers to be interested in providing labor at a salary than at no salary? [... A.] As I said, it depends on what else is happening in the labor market. But assuming we’re in sort of a textbook, econ 101, then higher pay will tend to, you know, increase the labor supply.”).

²²³ See backup materials.

C. Dr. Rascher's Damages Model Is Unreliable

i. Overview of Dr. Rascher's Damages Methodology

154. To estimate the salary that a proposed Class member would have received in the but-for world, Dr. Rascher estimates damages based on the salaries paid by schools that added a third paid assistant Baseball coach position in AY 2023-24.²²⁴
155. The change in the bylaws in 2023 increased the number of paid Baseball coaches each team could hire from three to four starting in AY 2023-24.²²⁵ Thus, prior to the bylaw amendment, schools could hire a head coach and up to two paid assistant coaches, and after the bylaw amendment, schools could hire a head coach and up to three paid assistant coaches.
156. If a school added a third paid assistant coach position in AY 2023-24 and reported data on the salary that this coach earned, then Dr. Rascher assumes that a volunteer at that school during the proposed Class period would have been paid that amount, adjusted for the average growth rate of assistant coach pay among schools that spent similar amounts on their Baseball programs (specifically, within the same decile of expenditures).²²⁶
157. If a school did not add a third paid assistant coach position in AY 2023-24, then Dr. Rascher estimates a but-for salary adjusted for inflation. To do this, he follows the following steps.

²²⁴ Rascher Report, ¶¶ 181-186.

²²⁵ NCAA, "Division I Council Modernizes Rules for Coaching Limits," January 11, 2023, *available at* www.ncaa.org/news/2023/1/11/media-center-division-i-council-modernizes-rules-for-coaching-limits.aspx ("The Council voted to eliminate the voluntary coach designation across Division I, instead including those coaches within a new limit for countable coaches in each of the applicable sports. By adopting the proposal, the number of countable coaches in baseball, softball and ice hockey increased to four total in each sport.").

²²⁶ Rascher Report, ¶ 181 ("The second step in my damages model is to estimate the compensation that class members' schools would have paid in the but-for world for the labor class members provided in the actual world, when they worked (for no compensation) at the schools that I have determined would have chosen to pay their third assistant coach, but for the challenged conduct. I first estimate a base salary for 2023-24 using actual base salaries for the third assistant coach position in 2023-24."), ¶ 184 ("Instead, what I do is identify the average rate of growth of assistant coach pay for each of the peer groups (deciles) described above using a standard compound annual growth rate (CAGR) formula. I then grow the 2022-23 MFRS data by this rate to estimate 2023-24 average payments, for each peer group. Then for each year of the damages period, from 2018-19 through 2022-23, I simply determine the ratio of that year's assistant pay for each decile to the estimated 2023-24 value.").

- i. He divides schools into ten peer groups, or deciles, based on their total expenditures on Baseball during the proposed Class period.²²⁷ For each of those expenditure deciles, he calculates the average of the two highest assistant coach salaries paid in AY 2023-24 and compares what a given school paid its two highest assistant coaches compared to that average.²²⁸
- ii. Dr. Rascher assumes that every school would have paid its third paid assistant coach in the same proportion to the decile average as what it paid its first and second paid assistants. Thus, if a school paid its two paid assistant coaches 75 percent of the average salaries that schools in its decile paid to the first and second paid Baseball assistants, then Dr. Rascher assumes that the school would have paid its third paid Baseball assistant 75 percent of the average salaries that schools in its decile paid third assistant Baseball coaches.²²⁹
- iii. For each year of the proposed Class period, adjusts his estimate of the AY 2023-24 salary for the average growth rate of assistant coach pay among peer schools.²³⁰

²²⁷ Rascher Report, footnote 198 (“To determine a peer school, first I divide the MFRS data on average allocated baseball team expenditures during the damages period (2018-19 to 2022-23) to divide D1 into ten deciles. I then restrict each decile to just schools that do have salary data for a third assistant coach. For each school, then, their peers are the set of schools with comparable levels of overall baseball expenditure that paid a third assistant coach.”).

²²⁸ Rascher Report, ¶ 182 (“For these schools, I check whether the school reported salaries for its assistant coaches, and, for the 89 schools that did, I compute a ratio or ‘assistant coach relative pay level’ based on how much that specific school paid its two assistant coaches relative to how much its peer schools paid their two better paid assistant coaches (i.e., omitting the peer schools’ third assistant coach). The product of multiplying this ratio, the assistant coach relative pay level and the peer group’s average pay to a third assistant coach is my estimate of the salary level for a third assistant coach at the school.”).

²²⁹ Rascher Report, ¶ 182 (“So, if a given school tended to pay 90% as much for the first and second assistant coach than other comparable schools (as assistant coach relative pay level of 0.90), then I model their but-for salary for their third assistant coach as 90% of what those same peer schools paid their third assistant coach.”).

²³⁰ Rascher Report, ¶ 184 (“Instead, what I do is identify the average rate of growth of assistant coach pay for each of the peer groups (deciles) described above using a standard compound annual growth rate (CAGR) formula. I then grow the 2022-23 MFRS data by this rate to estimate 2023-24 average payments, for each peer group. Then for each year of the damages period, from 2018-19 through 2022-23, I simply determine the ratio of that year’s assistant pay for each decile to the estimated 2023-24 value.”).

158. For example, Boston College did not hire a third paid assistant Baseball coach in AY 2023-24 and is in the ninth expenditure decile. First, Dr. Rascher calculates an average pay for the lowest-paid Baseball coach among schools in that decile that added a third paid assistant coach position of \$63,219. Second, Dr. Rascher divides the average salary of assistant Baseball coaches at Boston College (██████████) by the average salary of assistant coaches among peer schools in the same expenditure decile (██████████), which equals ██████████. That is, he determines that Boston College paid its assistant Baseball coaches ██████████ of what other schools in its decile that added a third paid assistant position paid their two highest paid assistant Baseball coaches. Third, to calculate what Boston College would have paid a third assistant Baseball coach in AY 2023-24, he multiplies this ██████████ percent figure by ██████████, which is average that schools in the decile paid their third assistant Baseball coach. This yields ██████████.²³¹ Finally, Dr. Rascher adjusts this salary to account for the average growth rate of assistant coach pay among schools in the same expenditure decile.
159. Dr. Rascher also calculates damages associated with the healthcare benefits injured proposed Class members would have received in the but-for world.²³²

ii. Dr. Rascher's Damages Methodology Ignores Individual Factors Relevant for Determining But-For Salary

160. Like Dr. Ashenfelter, Dr. Rascher's damages methodology ignores standard factors that determine workers' earnings.
161. *First*, as I explained in **Section V.D.i** and **Section VI.B.ii**, each coach's compensation is influenced by factors that vary from coach to coach, including that coach's skills and experience, their outside options, the responsibilities and scope of the position, a program's financial capacity, and the pool of applicants for each position. These individualized factors result in variation in compensation levels among assistant coaches even within the same

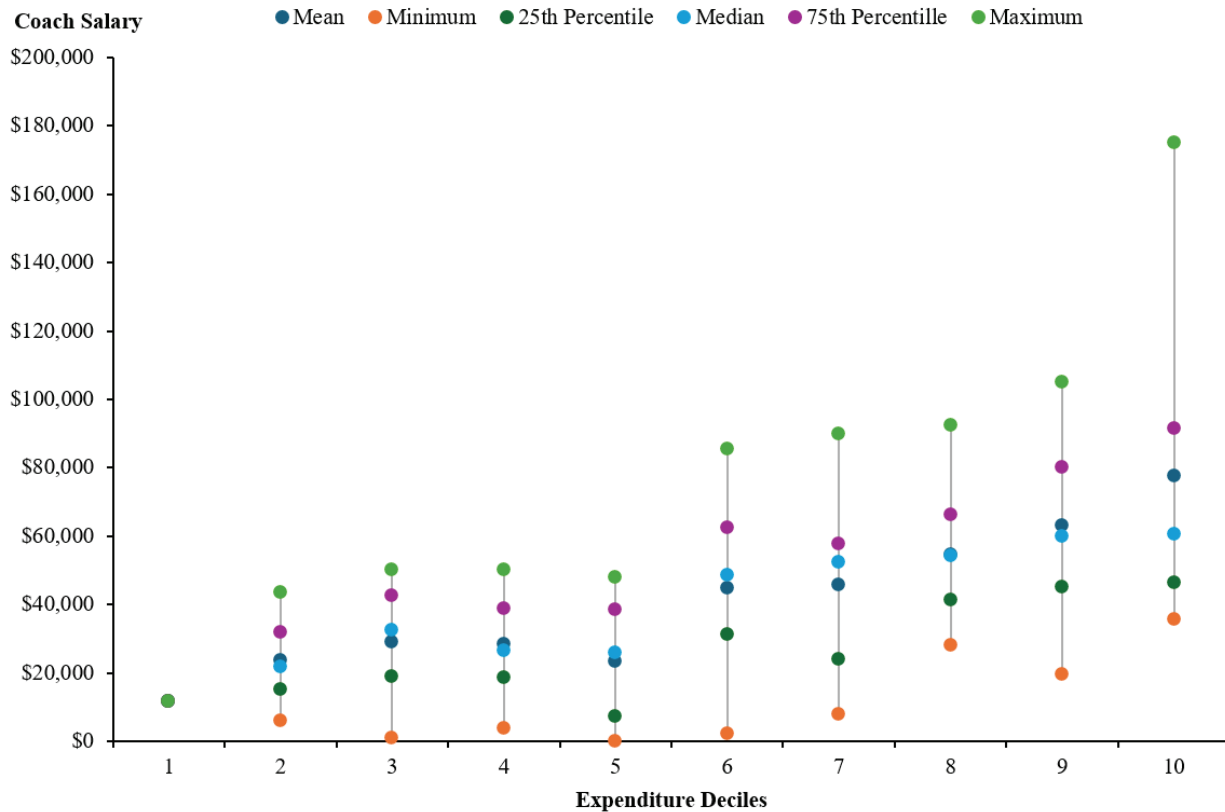
²³¹ See backup materials.

²³² Rascher Report, ¶ 186 ("Another way in which class members were damaged related to the loss of other employment benefits, which provided to paid third assistant coaches but which the 'volunteer' coach was prohibited from receiving. As a conservative estimate of the additional employment benefits that a paid third assistant coach would have received, I estimate the value of each damaged class member's forgone health benefits.").

program during the proposed Class period. To use salaries paid to coaches hired for positions created in AY 2023-24 to estimate the salaries that would have been paid to coaches who were not hired for those positions, Dr. Rascher needs to control for the difference in individualized factors that affected the coaches' compensation in AY 2023-24 and would have affected the compensation of proposed Class members in the but-for world. In particular, as explained in **Section VII.C.iii**, the coaches who were hired for paid positions could have commanded higher salaries than the proposed Class members. Dr. Rascher does not control for these factors.

162. *Second*, Dr. Rascher's reliance on averages hides significant variation among schools and coaches. **Exhibit 13** illustrates the range of salaries paid to the third paid assistant coaches—minimum, 25th percentile, mean, median, 75th percentile, and maximum—among schools within each expenditure decile that Dr. Rascher used in his damages model.

Exhibit 13
Distribution of the Third Paid Assistant Coaches' Salaries in AY 2023-24²³³



Notes:

[1] The expenditure deciles are calculated by Dr. Rascher, based on schools' average non-zero Baseball total expenditure during the proposed Class period (AY 2018-19 through AY 2022-23). See Rascher Report, footnote 198.

[2] Coach salary is calculated as the lowest-paid coach's salary for schools that added a third paid assistant coach position in AY 2023-24.

[3] The sample includes 103 schools that hired a third paid assistant coach in AY 2023-24 and provided complete and non-zero salary information in response to Plaintiffs' subpoena.

[4] Only one school from the first decile was included in the sample.

163. This exhibit shows the significant variation in the salaries that programs within each decile paid their third paid assistant coaches. For example, in the 10th (highest) decile, the salaries of the third paid assistant coaches range from \$35,500 to \$175,000,²³⁴ with an average salary of \$77,500. Similarly, in the sixth decile, the salaries of the third paid assistant coaches vary

²³³ Source: Input for Rascher's decile average calculations (damages_calc_3.sas7bdat).

²³⁴ Salaries are rounded to the nearest \$500.

from \$2,000 to \$85,500 compared to the average salary of \$45,000. In the third decile, the salaries range from \$1,000 to \$49,000 while the average salary is \$29,000. The disparity in salaries that schools in the same decile paid their third paid assistant coaches in AY 2023-24 shows how salaries are determined by coach-specific and program-specific factors other than how much they spend on Baseball. Dr. Rascher's use of an average salary disregards these factors and thus will not reliably estimate the salaries (if any) that each coach would have been paid.

164. *Third*, given that individualized factors affect the varying compensation levels among assistant coaches even within the same program during the proposed Class period, there is no economic basis to assume that the ratio of the compensation of a school's two highest-paid assistant coaches to the average compensation of peer programs' two highest-paid assistant coaches would *always* apply to the third paid assistant coaches, even within the same program. As described in **Section VI.B.ii**, different programs could allocate different proportions of their coaching salary expenditures to coaches at different salary levels. For example, one program may choose to devote more to attracting a top assistant coach instead of a third assistant, while another program may try to attract a third assistant coach of similar skills compared to its existing two assistant coaches.
165. For example, the Baseball programs at Duke University and University of Houston are both within the same expenditure decile and both paid a third assistant coach in AY 2023-24.²³⁵ Houston's highest-paid assistant coach earned [REDACTED] percent of the salary of Duke's highest-paid assistant coach, and Houston's second-highest paid assistant coach earned [REDACTED] percent of the salary of Duke's second-highest paid assistant coach. However, Houston's lowest-paid assistant coach earned [REDACTED] percent of Duke's lowest-paid assistant coach salary.²³⁶ This

²³⁵ Rascher's countable coach data build with salary adjustments (ccdata_std_adj_salary.sas7bdat); Rascher's damages summary data (summ_damages_3.sas7bdat).

²³⁶ Rascher's countable coach data build with salary adjustments (ccdata_std_adj_salary.sas7bdat). The variable *PerMonth Salary* reports the value of a coach's monthly salary in this dataset. The highest paid assistant coaches at Houston and Duke, in AY 2023-24, received a monthly salary of [REDACTED], respectively. This implies that the salary of the highest paid assistant coach at Houston was [REDACTED] percent) of the salary of the highest paid assistant coach at Duke. Similarly, the second highest paid assistant coach at Houston earned [REDACTED] of the salary of the second highest paid

illustrates why Dr. Rascher's assumption that compensation ratios for the lowest-paid coaches should mirror those of higher-paid positions is flawed.

iii. Dr. Rascher's Damages Methodology Suffers from Selection Bias

166. Dr. Rascher's model, like Dr. Ashenfelter's model, suffers from selection bias because it only considers data from programs that added a third paid assistant coach position after the bylaws changed.²³⁷ Dr. Rascher assumes that the compensation patterns of programs that added a third paid assistant coach position within a given decile is representative of programs that did not add a third paid assistant coach position in AY 2023-24. However, there are economic reasons why this would not have been the case. As I discussed in **Section VI.B.iii** regarding Dr. Ashenfelter's analysis, coaches who were hired for paid positions created for AY 2023-24 may have been more experienced than volunteer coaches who were not hired for those paid positions. Further, schools that added a third paid assistant coach position in AY 2023-24 likely had greater demand for baseball coaching, as acknowledged by Dr. Rascher during deposition,²³⁸ and thus would be expected to pay more than schools who did not add a third paid assistant coach position in AY 2023-24. Because wages depend on the experience and skills of the workers supplying labor and the demand for that labor,²³⁹ these dynamics

assistant coach at Duke. The lowest-paid assistant coach at Houston earned [REDACTED] of the lowest-paid assistant coach at Duke in AY 2023-24.

²³⁷ Rascher Report, footnote 198 ("To determine a peer school, first I divide the MFRS data on average allocated baseball team expenditures during the damages period (2018-19 to 2022-23) to divide D1 into ten deciles. I then restrict each decile to just schools that do have salary data for a third assistant coach. For each school, then, their peers are the set of schools with comparable levels of overall baseball expenditure that paid a third assistant coach.").

²³⁸ Rascher Deposition, 222:16-23 ("Q. Sure. The schools that hired third paid assistants after the bylaws were amended are, all things being equal, more likely to be interested in baseball than the schools that didn't hire third paid assistants? [...A.] Again, all things being equal is carrying a lot of water, but yes, generally.").

²³⁹ Robert J. Willis, "Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Functions," *Handbook of Labor Economics*, Vol. I, edited by O. Ashenfelter and R. Layard, Elsevier Science Publishers BV, 1986, pp. 527-528 ("Additional schooling entails opportunity costs in the form of forgone earnings plus direct expenses such as tuition. To induce a worker to undertake additional schooling, he must be compensated by sufficiently higher lifetime earnings. To command higher earnings, more schooled workers must be sufficiently more productive than their less schooled fellow workers. In long-run competitive equilibrium, the relationship between lifetime earnings and schooling is such that (a) the supply and demand for workers of each schooling level are equated and (b) no worker wishes to alter his schooling level. The preceding paragraph provides a nutshell summary of the human capital theory of educational choice. In order to extend the theory to explain educational wage differentials, it is necessary to specify how variations in earnings are divided between

would have tended to result in coaches who were hired for paid positions added for AY 2023-24 being paid more than volunteers who were not hired for those paid positions. Accordingly, estimating all volunteers' earnings using salaries paid to coaches who were hired for paid positions added for AY 2023-24, Dr. Rascher's analysis will tend to overestimate salaries.

167. Dr. Rascher's approach, like Dr. Ashenfelter's approach, is especially problematic for volunteers who coached at Baseball programs that did not hire the maximum allowable number of paid coaches during the proposed Class period, as discussed in **Section VI.B.iii**. Programs that decided to hire only one assistant Baseball coach during the proposed Class period, even though the bylaws permitted hiring two paid assistant coaches, likely had particularly low demand for coaching. Dr. Rascher's analysis, however, does not account for this dynamic.²⁴⁰

iv. Dr. Rascher Incorrectly Assigns Damages for AY 2023-24

168. Although the proposed Class period for the Smart case ends on July 1, 2023,²⁴¹ Dr. Rascher's damages model calculates damages beyond that date, including for (i) coaches who are not part of the proposed Class, and (ii) coaches who did not exist.
169. *First*, Dr. Rascher assigns damages to individuals who were hired as a volunteer coach after the bylaws changed,²⁴² but who were never a volunteer during the proposed Class period and therefore are not proposed Class members. For example, at the University of North Florida,

hours of work and hourly wage rates and how wages and hours are distributed over the life cycle. The essentials of the extended theory can be stated by replacing the word 'schooling' with the term 'on-the-job training' in the preceding paragraph.").

²⁴⁰ Rascher Report, ¶ 185 ("The remainder of the calculation is simply a matter of multiplication. The Probit Model, with the three-year cumulative extension, identifies a 1 or a 0 for each school. Similarly, in each year, each school either had 1 or 0 'volunteer' coaches. Those two numbers are multiplied by each other (so only schools with '1' for both tests stay as ones, all others become zeroes) and then for each year, that value is multiplied by the inflation-adjusted value for that year's third assistant coach pay.").

²⁴¹ Rascher Report, ¶ 9 ("I understand that Plaintiffs seek to certify the following class: 'All persons who worked as a 'volunteer coach' as defined by National Collegiate Athletic Association ('NCAA') Division I Bylaw 11.01.6 in men's Baseball from November 2018 to July 1, 2023 for the following NCAA Division I schools: [...]").

²⁴² Rascher's damages summary data (summ_damages_3.sas7bdat).

volunteer coach, Drew Linder was hired after July 1, 2023 and did not serve as a volunteer coach during the proposed Class period.²⁴³ Similarly, at Fordham University, Tyler Caserta was hired after July 1, 2023 and did not serve as a volunteer coach during the proposed Class period.²⁴⁴ But Dr. Rascher “assigns” damages to coaches at both North Florida and Fordham for AY 2023-24.

170. *Second*, Dr. Rascher assigns AY 2023-24 damages to coaches at 22 programs that did not hire a third assistant coach that year—either paid or unpaid.²⁴⁵ As a result, Dr. Rascher assigns damages to non-existent coaches, as he acknowledged during his deposition.²⁴⁶
171. *Third*, Dr. Rascher estimates damages for 51 programs that did hire a third paid assistant coach and therefore did not have a volunteer coach in AY 2023-24, according to his web research.²⁴⁷ As a result, Dr. Rascher assigns damages to coaches who were not volunteers.

v. Dr. Rascher’s Model of Damages for Healthcare Benefits is Flawed

172. To estimate damages associated with the lack of healthcare benefits in the actual world, Dr. Rascher assumes that every proposed Class member (i) would have been eligible to receive healthcare benefits; and (ii) would have used the benefits or received an equivalent cash

²⁴³ University of North Florida data on coaches; University of Pittsburgh data on coaches’ ; University of North Florida Athletics, “Drew Linder,” *available at* unfospreys.com/sports/baseball/roster/coaches/drew-linder/1367. The subpoena data file for the University of North Florida shows that Drew Linder was hired as a volunteer coach on August 10, 2023. According to the details on University of North Florida’s website, Drew Linder served as a Director of Player Development at the University of Pittsburgh from 2018 to 2023 prior to joining the University of North Florida in August 2023. Notably, Drew Linder does not appear in the subpoena data for University of Pittsburgh.

²⁴⁴ Fordham University data on coaches; Fordham University Athletics, “Tyler Caserta,” *available at* fordhamports.com/sports/baseball/roster/coaches/tyler-caserta/2848. The subpoena data file for Fordham University shows that Tyler Caserta was hired as a volunteer coach on July 17, 2023. According to Fordham University’s website, Tyler Caserta was a hitting and outfield coach at Iona University in 2023. Prior to that, Tyler spent two seasons as hitting/head assistant coach at Santa Barbara City College and served as a graduate assistant coach for two seasons at UC Santa Barbara.

²⁴⁵ See backup materials.

²⁴⁶ Rascher Deposition, 220:5-12 (“Q. Well, if you did calculate damages for the year 2023/2024 at a school that didn’t hire a third assistant coach that year, you would have calculated damages for people who don’t exist; right? [... A.] Yeah, I think that’s probably true, yes.”).

²⁴⁷ See backup materials.

value.²⁴⁸ However, economic evidence suggests that these two conditions will not always hold and determining whether they would for each proposed Class member would require an inquiry into the health benefit plans for each coach and school.

173. *First*, in some cases, employers are not required to offer healthcare benefits to employees who work less than 30 hours per week.²⁴⁹ Subpoena data show that some of the third paid assistant coach positions created in AY 2023-24 were part-time positions, including positions that did not offer healthcare benefits.²⁵⁰ Such evidence suggests that, in the but-for world, paid positions that would have been created would not necessarily have come with healthcare benefits. It is therefore necessary to establish whether each proposed Class member would have been eligible for healthcare benefits, which would depend on the number of hours they would have worked and the school's policy. Dr. Rascher has not done so.
174. *Second*, Dr. Rascher disregards evidence indicating that some proposed Class members would have chosen not to enroll in the school's healthcare benefits, including because Proposed Class members may already have had access to healthcare benefits from alternative sources. For example, data produced by the University of Arkansas shows that Mr. Wernes,

²⁴⁸ Rascher Report, ¶ 186 ("Another way in which class members were damaged related to the loss of other employment benefits, which provided to paid third assistant coaches but which the 'volunteer' coach was prohibited from receiving. As a conservative estimate of the additional employment benefits that a paid third assistant coach would have received, I estimate the value of each damaged class member's forgone health benefits.").

²⁴⁹ IRS, "Questions and Answers on Employer Shared Responsibility Provisions Under the Affordable Care Act," available at www.irs.gov/affordable-care-act/employers/questions-and-answers-on-employer-shared-responsibility-provisions-under-the-affordable-care-act Identification, ("Under these provisions, certain employers (called applicable large employers or ALEs) must either offer health coverage that is 'affordable' and that provides 'minimum value' to their full-time employees (and offer coverage to the full-time employees' dependents) [...] An employee is considered full-time if he or she has sufficient hours of service. In particular, for purposes of the employer shared responsibility provisions, an employee is a full-time employee for a calendar month if he or she averages at least 30 hours of service per week or has 130 hours of service in the month.").

²⁵⁰ For example, [REDACTED], a volunteer coach at Saint Joseph's University, became a third paid assistant coach in September 2023. In the school's subpoena data, [REDACTED] is listed as a "Part-Time Assistant Coach" with an FTE value of 0.05. Although all other paid coaches listed have health insurance in AY 2023-24, the *Value of Health Insurance Provided* field is blank for [REDACTED] Saint Joseph's University data on coaches.

New Jersey Institute of Technology ("NJIT") hired [REDACTED] as its third paid assistant coach in September 2023. In the school's subpoena data, [REDACTED] is listed as the "3rd Assistant Coach" with an FTE value of 0.5. Although all other countable coaches listed have health insurance in AY 2023-24, the *Value of Health Insurance Provided* field is blank for [REDACTED]. New Jersey Institute of Technology data on coaches.

the third paid assistant Baseball coach in AY 2023-24, did not accept the healthcare benefits offered by the university.²⁵¹ Mr. Hacker testified that while he was a volunteer coach he received healthcare benefits through his wife, as did Mr. Barajas.²⁵² Further, Ms. Ray testified that she received healthcare benefits through her full-time job as an auditor.²⁵³ Other proposed Class members are likely to have been covered by healthcare benefits through their spouses: According to a 2019 survey, more than two-thirds of married individuals in the US receive healthcare benefits through their spouse.²⁵⁴ In addition, proposed Class members under the age of 26 may have received coverage through their parents' plans: according to 2024 Current Population Survey data, 72 percent of 18 to 25 year olds are listed as dependents on another person's plan.²⁵⁵

175. Proposed Class members who already had healthcare benefits while they were volunteers would have been better off in the but-for world only if (i) they would have chosen to enroll in healthcare benefit plans offered by the school where they volunteered, or (ii) they would have been able to negotiate to receive some value of the healthcare benefits offered with the paid position as additional salary. Dr. Rascher's model does not address whether any volunteer coach would have done either of these things.

²⁵¹ The subpoena data file from University of Arkansas shows that Bobby Wernes, hired on July 12, 2023, is the [REDACTED] assistant coach in the dataset. The *Value of Health Insurance Provided* column for him is "0 – Did not pick up health insurance." University of Arkansas data on coaches.

²⁵² Hacker Deposition, 89:17-21 ("Q. Did you have health insurance at that time that you became a volunteer? A. I did. Q. Through what entity? A. My wife."); Barajas Deposition, 81:16-20 ("Q. Did you have health insurance at all while you were working at Cal State, Bakersfield? A. Yes. Q. Through what provider? A. Through my wife's employment.").

²⁵³ Ray Deposition, 105:4-106:7 ("Q. [...] You said that you worked at Calvary full-time as an auditor while you were a volunteer coach; is that right? A. Correct. [...] Q. Sure. Did you receive health insurance? A. Yes. Q. Did you receive dental insurance? A. Yes. Q. Did you receive any other medical or benefits of that type? A. I received medical and dental insurance, and those were the only benefits.").

²⁵⁴ Health Markets, "What to Know About Spousal Health Insurance Coverage," December 11, 2020, *available at* www.healthmarkets.com/resources/health-insurance/spousal-health-insurance/ ("Employer-sponsored spousal health insurance is coverage that's available through your spouse's plan. In fact, 71% of American couples share the same insurance plan, according to a 2019 Morning Consult-CNBC Make It poll.").

²⁵⁵ Matthew Rae, Gary Claxton, and Anthony Damico, "Dependent Coverage for Young Adults in Employer-Sponsored Health Plans," *KFF*, October 21, 2024, *available at* www.kff.org/private-insurance/issue-brief/dependent-coverage-for-young-adults-in-employer-sponsored-health-plans/ ("Young adults, particularly those ages 18-25, are more likely to be covered as dependents than adults overall (72% vs. 32%).").

176. Whether a volunteer who had healthcare benefits would have chosen a school healthcare benefits plan instead would depend on whether their actual healthcare benefits were inferior to the benefits that might have been available to them in the but-for world, which likely would vary from plan to plan and from coach to coach depending on their healthcare needs. As Dr. Rascher admitted in his deposition, determining the healthcare benefits that proposed Class members had access to would require individualized inquiry.²⁵⁶ Further, there is no economic basis to assume that *all* coaches that declined healthcare benefits would have received all, or any, of the value of healthcare benefits. Dr. Rascher has not established, for example, that all schools provide such “cash in lieu” programs, and that those which do increase salaries by the full value of the healthcare benefits.²⁵⁷



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December 20, 2024

²⁵⁶ Rascher Deposition, 206:19-23 (“Q. Can you think of any way to figure out the health insurance that each class member had other than asking them? [... A.] As I sit here, no.”).

²⁵⁷ For example, Fresno State University provides a monthly cash payment of \$128 for employees that have alternative medical coverage, instead of contributing \$730 or more to their employees’ monthly medical premiums. Fresno State University, “Benefits,” *available at* adminfinance.fresnostate.edu/hr/benefits/health/flexcash.html; Fresno Association California State University, Inc., “Medical Insurance Plans and Cost,” 2025.

APPENDIX A
JEE-YEON K. LEHMANN, PH.D.
Managing Principal

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jee-yeon.lehmann@analysisgroup.com

111 Huntington Avenue
14th Floor
Boston, MA 02199

Dr. Lehmann specializes in applying microeconomics, econometrics, and statistical methods to complex litigation and government investigations in the areas of antitrust and competition, labor and employment, health care, and commercial damages. She has evaluated market definition, market power, competitive dynamics, class certification, liability, and damages issues in cases involving allegations of price-fixing, monopolization, and other anticompetitive conduct. Dr. Lehmann has extensive experience in labor market antitrust matters involving allegations of no-poach and wage-fixing agreements in a variety of industries. She has extensive experience analyzing compensation, recruiting, and other human resources data in the context of these cases and in other employment litigation matters involving allegations of worker misclassification, violations of wage & hour laws, discrimination, and breach of non-compete agreements. In her work with pharmaceutical and medical device industries, she has analyzed economic, health, and scientific data to assess liability, damages, and claims of causation and harm. She also frequently supports biostatisticians, epidemiologists, scientists, and regulatory experts in evaluating research and development processes and analyzing clinical trial, laboratory testing, registry, medical claims, and adverse events data in product liability litigations and intellectual property disputes. She has authored expert reports and provided testimony on class certification, damages, causation assessments, and statistical issues in antitrust and competition, data security breach, labor and employment, and commercial litigation matters.

Dr. Lehmann's research has been published in the *Journal of Economic Literature*, *The Journal of Human Resources*, *Labour Economics*, *Cartel & Joint Conduct Review*, *Distribution*, *Cybersecurity Law & Strategy*, *Antitrust Report*, and *Antitrust Magazine*, and her academic work has been cited in leading media outlets, including *Scientific American*, *Forbes*, and *BBC News*. She serves as a co-chair of the Distribution and Franchising Committee of the American Bar Association (ABA) Antitrust Law Section. Prior to joining Analysis Group, Dr. Lehmann was an assistant professor of economics at the University of Houston, where she taught courses in labor economics and microeconomics.

EDUCATION

2012	Ph.D., economics, Boston University <i>Areas of specialization: Labor economics and industrial organization</i>
2009	M.A., political economy, Boston University
2002	B.A., economics (<i>summa cum laude</i> , <i>Phi Beta Kappa</i>), Yale University <i>Triffin Prize for Outstanding Academic Record in the Social Sciences</i> <i>Distinction in Major</i>

PROFESSIONAL EXPERIENCE

2014–Present Analysis Group, Inc.
 Managing Principal (2022–Present)
 Vice President (2018–2022)
 Manager (2016–2017)
 Associate (2014–2015)

2011–2014 University of Houston
 Assistant Professor of Economics

2008–2010 Boston University
 Lecturer, Teaching Assistant, Research Assistant

2002–2003 NERA
 Associate Analyst (January 2003–July 2003)
 Research Associate (June 2002–December 2002)

EXPERT ENGAGEMENTS

- ***The State of Connecticut, et al. v. Sandoz, Inc., et al.***
US District Court, District of Connecticut
Submitted a report and testified at deposition on damages issues in an antitrust litigation involving allegations of price-fixing in the generic pharmaceutical industry.
- ***In re: Mednax Services, Inc., Customer Data Security Breach Litigation***
US District Court, Southern District of Florida
Submitted a report and testified at deposition on class certification issues in a data security breach litigation.
- ***Chen Dongwu, et al. v. New York City Regional Center LLC, et al.***
Supreme Court of the State of New York, County of New York
Submitted a report and testified at deposition on the value of permanent resident status in the United States.
- ***Joel Weiss v. Loomis Sayles & Company, Inc., et al.***
Commonwealth of Massachusetts, Superior Court Department of the Trial Court
Testified at trial in a litigation alleging worker misclassification in the IT consulting industry.
- ***Edwin Bartok, et al. v. Hometown America LLC, et al.***
US District Court, District of Massachusetts
Submitted reports in a class action alleging unfair rents charged to resident-tenants in manufactured home communities.
- **Confidential matter for a university**
Submitted a report for the faculty board and testified at a university hearing on evaluations of claims of race- and gender-based discrimination in grading practices.

- **Confidential matter for the US Department of Justice (DOJ)**
Submitted a report on behalf of the DOJ's Civil Rights Division evaluating claims of race-based discrimination in a regional bank's mortgage lending practices.
- **Confidential wage-fixing class action in the food and agriculture industry**
Retained as an expert witness in an antitrust class action involving allegations of wage-fixing agreements.
- **Confidential wage-fixing government investigation in the healthcare industry**
Retained as an expert for a company being investigated by the Department of Justice over allegations of wage-fixing agreements.
- **Confidential dispute involving claims of employee raiding in the biotechnology industry**
Retained as an expert in a dispute between two biotechnology companies involving claims of employee raiding and tortious interference with employment contracts.
- **Confidential dispute involving claims of fraud in the sales of a company in the fashion industry**
Retained as an expert in a dispute alleging fraud in the sales of a company to evaluate the contribution of an executive to company valuation.

SELECTED CONSULTING EXPERIENCE

Antitrust and Competition

- ***In re: EpiPen Direct Purchaser Litigation***
US District Court, District of Minnesota
Supported experts in the evaluation of class certification, liability, and damages issues related to allegations that rebates and fees negotiated by PBMs caused the manufacturer to raise prices paid by wholesalers and other direct purchasers.
- ***United States v. DaVita Inc., et al.***
US District Court, District of Colorado
Supported an expert in the economic analysis of alleged labor market allocation agreements.
- ***Danielle Seaman v. Duke University, et al.***
US District Court, Middle District of North Carolina, Durham Division
Supported experts in the analysis of class certification and liability issues and assessment of damages in an antitrust litigation regarding the hiring practices of universities and their impact on compensation.
- **Confidential no-poach and wage-fixing class action in the media industry**
Supported an expert in the assessment of class certification and liability issues in a class action involving allegations of no-poach and wage-fixing agreements between employers in the media industry.
- **Confidential no-poach class action in the manufacturing industry**
Provided consulting support to counsel in a class action involving an allegation of wage suppression resulting from no-poach agreements and collusion between employers in a specialized manufacturing industry.

- **Confidential no-poach investigation in the health care industry**
Supported an expert in the assessment of economic evidence on labor market competition in a no-poach investigation in the health care industry.
- **Confidential wage-fixing investigation in the health care industry**
Supported an expert in the assessment of compensation in a wage-fixing investigation in the health care industry.
- ***In re: EpiPen ERISA Litigation***
US District Court, District of Minnesota
Supported an expert in the preparation of a rebuttal report on class certification issues related to allegations that rebates and fees negotiated by PBMs caused the manufacturer to raise list prices and increase plan member spending on EpiPen purchases.
- ***In re: Wellbutrin XL Antitrust Litigation***
US District Court, Eastern District of Pennsylvania
Supported an expert in the preparation of a rebuttal report on class certification issues related to overcharges on a prescription drug.
- ***In re: Merck Mumps Vaccine Antitrust Litigation***
US District Court, Eastern District of Pennsylvania
Supported an expert in the statistical analysis of clinical trial data on the immunogenicity of a vaccine.
- ***Inter City Tire and Auto Center, Inc., et al. v. Michelin North America, Inc., et al.***
US District Court, District of South Carolina
Supported an expert in the assessment of pricing and discounting policies related to allegations of anticompetitive practices.
- ***Stevens & Sons, Inc. v. JELD-WEN, Inc.***
US District Court, Eastern District of Virginia
Supported an expert in the assessment of liability issues in response to allegations of monopolistic practices in a vertically integrated manufacturing industry.
- **Mexican Competition Commission's investigation of slot allocation at Mexico City Airport**
Assisted in the preparation of a white paper discussing the competitive effects of market concentration at slot-constrained airports on behalf of a major non-US airline.
- **Charter-Time Warner Cable merger**
Supported an expert in the analysis of merger efficiencies and competitive effects of the proposed transaction.
- **Pay-for-delay investigation by the DOJ**
Supported experts and counsel in framing key issues for a pharmaceutical company involved in a pay-for-delay investigation by the DOJ.

Labor & Employment

- ***Denver Davis v. Amazon Canada Fulfillment Services, et al.***
Ontario Superior Court of Justice

Provided consulting support to counsel in a class action involving allegations of misclassification of delivery drivers.

- ***DaVita Inc., et al. v. Associates in Nephrology, et al.***
US District Court, Southern District of Georgia, Augusta Division
Supported experts in the preparation of expert reports on the economics of non-compete agreements and damages associated with breach of non-compete and non-solicitation agreements.
- **Multiple wage & hour class actions in the healthcare industry**
Provided analysis of wages and timecards data for healthcare workers at various hospital systems
- **Wage analysis for hospital-union bargaining**
Provided analysis of wages and benefits data for use in bargaining rounds between a major hospital system and nurses union.
- **Multiple matters involving allegations of misclassification by ride-sharing companies**
Supported an expert in the preparation of expert reports on the platform business model and potential impact of reclassification, on behalf of a ride-sharing company.
- **Confidential gig worker class action**
Supported experts and served as a consulting expert in a class action filed by gig workers alleging misclassification and wage & hour law violations.
- **Confidential age discrimination litigation in the insurance industry**
Provided consulting support to counsel and supported testifying expert in multiple litigations involving allegations of age-based discrimination.
- **Multiple confidential reduction-in-force analyses**
Provided consulting support to counsel in conducting reduction-in-force analysis for technology companies.
- ***Sonia Escorbor v. Helping Hands Company, Inc.***
Commonwealth of Massachusetts, Suffolk County Superior Court
Supported an expert in the assessment of class certification and statistical sampling issues in a wage-and-hour class action.

Health Care

- ***Altor BioScience, LLC et al. v. HCW Biologics***
JAMS Arbitration, Los Angeles Resolution Center
Supported damages and scientific experts in a dispute between two biotechnology companies involving allegations of trade secrets theft and misappropriation related to the design, manufacturing, production, and purification of fusion proteins.
- ***Memorial Sloan Kettering Cancer Center et al. v. Juno Therapeutics***
Supreme Court of the State of New York, County of New York
Supported multiple experts in a breach of licensing agreement litigation involving the development of a CAR-T product on issues related to the science of CAR-T, commercially reasonable efforts in development, and analysis of clinical trial data.

- ***In re Ranitidine Cases***
JCCP, Superior Court of the State of California, County of Alameda
Supported an expert in the analysis of adverse events data for ranitidine, proton pump inhibitors, and H2-receptor antagonists.
- ***Shareholder Representative Services LLC v. Alexion Pharmaceuticals, Inc.***
Court of Chancery of the State of Delaware
Supported multiple experts in a breach of contract litigation involving allegations of failure to use commercially reasonable efforts to develop and commercialize a monoclonal antibody product for the treatment of autoimmune diseases.
- ***NantCell, Inc., et al. v. Sorrento Therapeutics***
American Arbitration Association, New York Regional Office
Supported an expert in an arbitration proceeding involving complex biotech issues related to license agreements for providing delivery of antibodies and know-how for use in cancer therapies.
- ***In re: Elmiron (Pentosan Polysulfate Sodium) Products Liability Litigation***
US District Court, District of New Jersey
Supported an expert in the analysis of epidemiological evidence on the use of a drug to treat a chronic bladder condition and the occurrence of retinal injuries.
- ***Adrian Holley, et al. v. Gilead Sciences***
US District Court, Northern District of California
Supported an expert in the analysis of clinical trial designs and data and post-marketing adverse event reports.
- ***In re: Allergan PLC Securities Litigation***
US District Court, Southern District of New York
Supported an expert in the analysis of scientific literature and registry data on relative rates of adverse events associated with textured breast implants.
- ***Amgen Inc. v. Sanofi SA, et al.***
US District Court, District of Delaware
Supported an expert in the analysis of clinical trial data and the evaluation of statistical issues in the context of a patent litigation.
- ***Richard Fourzon, et al. v. Boeringer Ingelheim, et al.***
Superior Court of the State of California, County of San Francisco
Supported an expert in the analysis of clinical trial data and observational studies on the safety and the efficacy of an anticoagulant drug.
- ***In re: DePuy Orthopaedics, Inc. Pinnacle Hip Implant Litigation***
US District Court, Northern District of Texas
Supported an expert in the analysis of orthopedic implant device performance based on data from national joint registries and clinical trials.
- ***UK DePuy Pinnacle hip replacement litigation***
High Court of Justice, Queen's Bench Division, United Kingdom
Supported an expert in the assessment of a medical device performance using data from national joint registries and clinical trial.

- ***Theresa Mackie v. Johnson & Johnson Medical Limited, et al.***
High Court of Justice, Queen's Bench Division, United Kingdom
Supported an expert in conducting a systematic literature review on the safety and efficacy of a medical device.
- ***Jayne Walkes v. Johnson & Johnson Medical Limited***
High Court of Justice, Queen's Bench Division, United Kingdom
Supported an expert in conducting a systematic literature review on the safety and efficacy of a medical device.
- ***John Hastings v. Finsbury Orthopaedics Ltd., et al.***
Court of Session, Scotland, United Kingdom
Supported an expert in the statistical analysis of joint registry data and the assessment of data quality.
- ***Janssen Inc., et al. v. Celltrion Healthcare Co., Ltd., et al.***
Federal Court of Canada
Supported an expert in the evaluation of clinical data in the context of a patent litigation.
- ***In re: Incretin Mimetics Products Liability Litigation***
US District Court, Southern District of California
Supported an expert in the statistical analysis of clinical trial data to assess claims of a causal association between incretin-based drugs and pancreatic cancer.
- **Confidential product liability matter**
Supported an expert in the analysis of epidemiological studies and laboratory testing data related to a consumer product.
- ***Diana Hoffman, et al. v. Syngenta Crop Protection, LLC, et al.***
Supported an expert in the analysis of Food and Drug Administration and Environmental Protection Agency regulatory requirements and approval process for an herbicide.
- **Confidential contract dispute in the health care industry**
Provided consulting support to counsel in a contract dispute matter in the health care industry involving imputation methods used to analyze clinical trial data.

Others

- **Confidential Investigation of University Admissions Practices**
Provided statistical analysis of admissions data for a major university to evaluate factors influencing admissions decisions.
- ***Odyssey Wireless v. Motorola Mobility LLC, et al.***
US District Court, Southern District of California
Supported an expert in the evaluation of a market demand model to estimate consumers' willingness to pay for smartphone features.
- **Ageas shareholder litigation**
Tribunal de Commerce de Bruxelles
Supported an expert in the assessment of the reasonableness of settlement terms in a securities class action involving a Belgian financial company.

- **White paper on standard essential patents**

Supported a technology firm and its chief economist in developing a white paper on the determinants of patent essentiality.

PUBLICATIONS

“Navigating Economic Expert Work in Criminal Antitrust Litigation,” *CPI Antitrust Chronicle*, with Solvejg Wewel, Samuel Weglein, and David Toniatti (April 2024)

“Anatomy of Public Comments: Empirical Analysis of Comments on FTC’s Proposed Rule Banning Non-Competes,” with Yeseul Hyun and Shannon Seitz, *Antitrust Magazine*, 38(2): 54-62 (Spring 2024)

“How Biotech Deals May Help Competition, Despite FTC View,” *Law360*, with Michael Kinch and Federico Mantovanelli (January 30, 2024)

“The Curious Case of Aspartame: How the Same Evidence Can Yield Seemingly Different Conclusions,” Food and Drug Law Institute’s *Update* magazine, with Brian Ellman, Jack Pfefferkorn, and Christopher Worsham (Spring 2024)

“OECD Gender Inclusive Toolkit May Inform Competition Policy,” *Law360*, with Lisa Pinheiro and Marissa Ginn (October 2023) (*Winner, 2024 Concurrences Antitrust Writing Awards: Business Articles, General Antitrust*)

“Gender Considerations in the Analysis of Market Definition and Competitive Effects: A Practical Framework and Illustrative Example,” with Lisa Pinheiro, Anne Catherine Faye, Marissa Ginn, and Johanna Posch, *Antitrust Report*, 2-23 (August 2023) (*OECD working paper nominated for the 2022 Concurrences Antitrust Writing Award in the Academic Article Awards: Economics category*)

“Qualified Renters Need Not Apply: Race and Voucher Discrimination in the Metro Boston Rental Housing Market,” with Jamie Langowski, William Berman, Grace Brittan, Catherine LaRaia, and Judson Woods, *Georgetown Journal on Poverty Law & Policy*, 28(1): 35-74 (Fall 2020)

“Qualified Renters Need Not Apply: Race and Voucher Discrimination in the Metro Boston Rental Housing Market,” with Jamie Langowski, William Berman, Grace Brittan, Catherine LaRaia, and Judson Woods, *The Boston Foundation: An Understanding Boston Report* (July 2020) (*Awarded the 2021 Citizens’ Housing & Planning Association’s Open Door Champion Award*)

“Vertical Relationships, Horizontal Effects? The Evolving Debate on Vertical Labor-Market Restraints,” *Cartel & Joint Conduct Review*, 14(2): 17-24 (Spring 2020) (*Nominated for the 2021 Concurrences Antitrust Writing Award in the Business Article Awards: Economics Category*)

“The Effects of Scarcity and Market Power on Prices at Slot-Constrained Airports: Evidence from Mexico City,” with Almudena Arcelus, Ryan Booth, Aaron M. Fix, Federico G. Mantovanelli, and Robert S. Pindyck, *The Journal of Transport Economics and Policy*, 53(2): 119-134 (April 2019)

“How Disparities May Arise in the Workplace: An Economic Outline,” with Cameron Fowler and Ishita Rajani, *Law360* (February 15, 2019)

“Antitrust in Labor Markets: Insights from the FTC Hearings on Competition and Consumer Protection in the 21st Century,” with Tímea Laura Molnár, Liz Neyens, and Rebecca Scott, *Cartel & Joint Conduct Review*, 14(2): 17-24 (February 2019) (*Nominated for the 2020 Concurrences Antitrust Writing Award in the Business Article Awards: Economics Category*)

“Causation and Harm in Data Breach Litigation,” with Brian Ellman, *Cybersecurity Law & Strategy* (February 1, 2019)

“Assessing the Effect of Mergers on Labor Markets,” with Federico Mantovanelli, Rebecca Scott, and Samuel Weglein, *Law360* (January 3, 2019)

“Proactive Pay Equity Studies Can Shield Mass. Employers,” with Catherine Alford, Charlotte Mann, Liz Neyens, and Shannon Seitz, *Law360* (April 25, 2018)

“Prejudice and Racial Matches in Employment,” with Timothy N. Bond, *Labour Economics*, 51: 271-293 (April 2018)

“The Early Origins of Birth Order Differences in Children’s Outcomes and Parental Behavior,” with Ana Nuevo-Chiquero and Marian Vidal-Fernandez, *The Journal of Human Resources*, 53(1): 123-156 (January 2018)

“Recent Developments in Litigation and Regulation Related to No-Hire and Employee Non-Compete Agreements: Implications for Franchise Systems,” with Aaron M. Fix and Michael J. Schreck, *DISTRIBUTION*, 22(1): 4-8 (February 2018) (*Nominated for the 2019 Concurrences Antitrust Writing Award in the Business Article Awards: Economics Category*)

“Evaluating Dose Ratio of Subcutaneous to Intravenous Immunoglobulin Therapy among Patients with Primary Immunodeficiency Disease Switching to 20% Subcutaneous Immunoglobulin Therapy,” with Girishanthi Krishnarajah, Brian Ellman, Rachel H. Bhak, Maral DerSarkissian, Deane Leader, Jr., Ann L. Bullinger, and Mei Sheng Duh, *The American Journal of Managed Care* 22(15): S475-S481 (October 2016)

“Racial Discrimination in the Labor Market: Theory and Empirics,” with Kevin Lang, *Journal of Economic Literature*, 50(4): 959-1006 (December 2012)

WHITE PAPERS AND AMICUS BRIEFS

“The Economic Impact of Immigration on the United States,” with Almudena Arcelus, Carlos Chiapa, Pierre Cremieux, Maria Garibotti, Owen Hearey, Yeseul Hyun, Lu Jinks, Yao Lu, Kritika Narula, Lolo Palacios, and Haimin Zhang (September 2024)

“Understanding Walmart’s Impact on the US Economy and Communities,” with Juliette Caminade (August 2024)

“Brief of Law and Economics Scholars as Amici Curiae in Support of Defendants-Appellees and Affirmance before the United States Court of Appeals for the 2nd Circuit, *Susan Giordano, et al. v. Saks & Company, et al.*,” Signatory; No. 23-0600 (November 3, 2023)

INVITED ECONOMIC SEMINARS AND CONFERENCE PRESENTATIONS

2015	Small Grants Conference, Center for Poverty Research, University of California, Davis
2014	American Economic Association Annual Meeting (Philadelphia, PA)
2013	American Economic Association Annual Meeting (San Diego, CA)
2013	Society of Labor Economists Annual Meeting (Boston, MA)
2011	Stata Texas Empirical Microeconomics Conference (Austin, TX)
2010	Boston University–Boston College Green Line Labor Meeting (Boston, MA)

Additional invited seminar and conference presentations before the following academic and policy research institutions and commissions:

Amherst College; Baylor University; Boston College; Boston University; Cornell University; Federal Trade Commission; Loyola Marymount University; Mathematica Policy Research; Northeastern University; Purdue University; The RAND Corporation; Rice University; Tufts University; University of California, Berkeley; University of Houston; University of Michigan; The Wharton School of the University of Pennsylvania; University of Utah School of Business; Wellesley College

OTHER PRESENTATIONS

Speaker, “The Economic Impact of Immigration on the United States” EconoFact Chats Podcast, October 2024

Panelist, “Return of Robinson-Patman: Price Discrimination in 2024” ABA Antitrust Section Pricing Conduct; Trade, Sports, and Professional Associations; and Distribution and Franchising Committees Webinar, October 2024

Panelist, “Life Sciences in the News: Exploring the Anticipated Compliance and Litigation Risks Associated with Semaglutide and GLP-1s” Women Leaders in Life Sciences Law, July 2024

Panelist, “The FTC’s Non-Compete Ban: What Lies Ahead?” ABA Antitrust Section Joint Conduct Committee and Distribution and Franchising Committee Webinar, May 2024

Panelist, “The Role of Economics in Criminal Antitrust Cases,” Concurrences Global Antitrust Economics Conference, November 2023

Panelist, “DOJ Criminal Antitrust Enforcement: A Look Back and a Look Ahead,” New York State Bar Association Program, October 2023

Panelist, “Is No-Poach a Crime or Not? An Examination of Cartel Enforcement in Labour Markets,” GCR Live: Cartels, June 2023

Panelist, “Monopsony/Labor Markets,” USC/Analysis Group Global Antitrust/Competition Law Conference, May 2023

Panelist, “Our Curious Amalgam: What Happened in 2022? What Will Happen in 2023? Looking Back and Looking Forward with the Sector Committees – Part 1,” ABA Antitrust Section Podcast, December 2022

Panelist, “Code Blue for Health Care Labor Markets: Criminal and Civil Antitrust Enforcement Trends,” American Health Law Association Webinar, October 2022

Panelist, “Criminal Antitrust Enforcement in Labor Markets: What Jindal and DaVita Mean for US and Canadian Litigation,” ABA Antitrust Section Distribution & Franchising Committee Webinar, July 2022

Panelist, “Antitrust in Labour Markets: How do US & EU Compare?” Concurrences New Frontiers of Antitrust Conferences, June 2022

Speaker, “Economic Analyses of Labor Market Impacts of Mergers,” ABA Antitrust Section Economics Committee Webinar, May 2022

Panelist, “When Did You Become My Competitor?” ABA Antitrust Section Spring Meeting, April 2022

Panelist, “The Use of Data in Life Sciences and in Defence of Litigation,” Kennedys Life Sciences Webinar, March 2022

Presenter, “Econometrics in Antitrust: Practical Introduction for Lawyers,” DC Bar Webinar, March 2021

Presenter, “Basics of Economics,” Latham & Watkins Global Antitrust Retreat, September 2020

Panelist, “The Ongoing No-Poach Litigation Debate,” ABA Antitrust Section Joint Conduct Committee Webinar, July 2019

Panelist, “No Poach Agreements: What You Need to Know and Do,” Nixon Peabody Webinar, October 2018

Panelist, “Employee Anti-Poaching Agreements and the Antitrust Laws: Safeguards and Pitfalls,” Knowledge Group Webinar, July 2018

Speaker, “Panel of Women Economists,” Boston University Women in Economics, March 2017

PUBLICATIONS REFEREED

<i>American Economic Journal: Applied Economics</i>	<i>The Journal of Human Resources</i>
<i>The B.E. Journal of Economic Analysis and Policy</i>	<i>Journal of Labor Economics</i>
<i>Canadian Journal of Economics</i>	<i>Journal of the European Economic Association</i>
<i>Demography</i>	<i>LABOUR</i>
<i>Economica</i>	<i>Labour Economics</i>
<i>Economic Inquiry</i>	<i>The Review of Economic Studies</i>
<i>The Economic Journal</i>	<i>The Review of Economics and Statistics</i>
<i>Industrial & Labor Relations Review</i>	<i>Southern Economic Journal</i>
<i>Journal of Economic Surveys</i>	

PROFESSIONAL ASSOCIATIONS AND SERVICE

American Economic Association

Society of Labor Economists

American Bar Association

- Antitrust Law Section
- Labor & Employment Law Section
- Health Law Section

National Asian Pacific American Bar Association

Boston University Economics Alumni Leadership Council

AWARDS AND FELLOWSHIPS

2021	Citizens' Housing & Planning Association's Open Door Champion Award
2013–2014	University of California, Davis Center for Poverty Research – Grant for Research on Poverty and Labor Markets
2012 & 2013	Provost Faculty Travel Award, University of Houston
2012	New Faculty Research Grant, University of Houston
2010	IED Special Research Award, Boston University
2008–2011	Harvey Fellowship, Mustard Seed Foundation
2005–2009	Jacob K. Javits Graduate Research Fellowship, US Department of Education
2005	Summer Research Fellowship, University of Michigan
2004–2005	Regent Fellowship, University of Michigan

TEACHING EXPERIENCE

2011–2013	University of Houston, Assistant Professor <i>Topics in Labor Economics (Ph.D.), Poverty and Discrimination in the US</i>
2007–2010	Boston University, Lecturer and Teaching Fellow <i>Poverty and Discrimination in the US, Industrial Organization (M.A.), Economics of Less-Developed Countries, Principles of Microeconomics, Intermediate Microeconomics</i>

APPENDIX B
LIST OF TESTIMONY IN THE PAST FOUR YEARS
JEE-YEON K. LEHMANN, PH.D.

- ***Connecticut et al v. Sandoz, Inc. et al. (2024)***
US District Court, District of Connecticut
Submitted an expert report and testified at deposition.
- ***In re: Mednax Services, Inc., Customer Data Security Breach Litigation (2023)***
US District Court, Southern District of Florida
Submitted an expert report and testified at deposition.
- ***Confidential matter for a university***
Submitted an expert report and testified at a university hearing.
- ***Chen Dongwu, et al. v. New York City Regional Center LLC, et al. (2023)***
Supreme Court of the State of New York, County of New York
Submitted an expert report and testified at deposition.
- ***Joel Weiss v. Loomis Sayles & Company, Inc., et al. (2022)***
Commonwealth of Massachusetts, Superior Court Department of the Trial Court
Testified at trial.
- ***Edwin Bartok, et al. v. Hometown America LLC, et al. (2022)***
US District Court, District of Massachusetts
Submitted an expert report.

APPENDIX C
MATERIALS RELIED UPON

Legal Documents

Amended Expert Declaration of Daniel A. Rascher in Support of Motion for Class Certification, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK, November 7, 2024.

Amended Plaintiffs' Objections and Responses to Defendant's Second Set of Interrogatories, *Joseph Colon, et al. v. NCAA*, 23-cv-00425 WBS KJN, August 27, 2024.

Class Action Complaint, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK, November 29, 2022.

Corrected Report of Orley Ashenfelter, *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, November 26, 2024.

Declaration of Christina Wombacher, Senior Associate Athletics Director and Senior Woman Administrator for Arizona State University, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 17, 2024.

Declaration of Clayton Hamilton, Senior Associate Vice Chancellor for Campus Services at the University of Arkansas-Fayetteville, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 20, 2024.

Declaration of Deborah Adishian-Astone, Vice President for Administration and CFO at California State University, Fresno, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 12, 2024.

Declaration of Josh Flushman, Senior Associate Athletics Director of Sports Administration and Development at the University of California, Davis, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 17, 2024.

Declaration of Rob Acunto, Deputy Director of Athletics at California State University, Fresno, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 17, 2024.

Declaration of Ryan Varley, Senior Associate Athletic Director, Finance and Strategy at the University of Pittsburgh, *Taylor Smart, et al. v. NCAA*, 2:22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 1:23-cv-00425-WBS-CSK, December 16, 2024.

Deposition of Daniel Rascher, Ph.D., *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK; and *Shannon Ray, et al. v. NCAA*, 23-cv-00425-WBS-CSK, December 9, 2024.

Deposition of Katherine Sebbane, *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, October 28, 2024.

Deposition of Khala Taylor, *Taylor Smart, et al. v. NCAA*, 22-cv-02125-WBS-CSK; and *Joseph Colon, et al. v. NCAA*, 23-cv-00425-WBS-CSK, October 23, 2024.

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